JULY 29, 1944 Founded in 1856

GIFT

MOVING MEN AND MATERIALS ON THE DOUBLE



BALDWIN -WESTINGHOUSE

Diesel-Electric Locomotives

Railroads are handling 72% of the wartime freight needed to feed and equip our armies and supply civilian needs . . . they are doing the job by unparalleled utilization of rolling stock. Baldwin-Westinghouse Diesel-Electric Locomotives—as well as Baldwin steam and electric locomotives—are proving themselves invaluable aids. In design and construction they reflect a knowledge of transportation needs gained in over a century of continuous service to the American railroads.

OCOMOTIVES

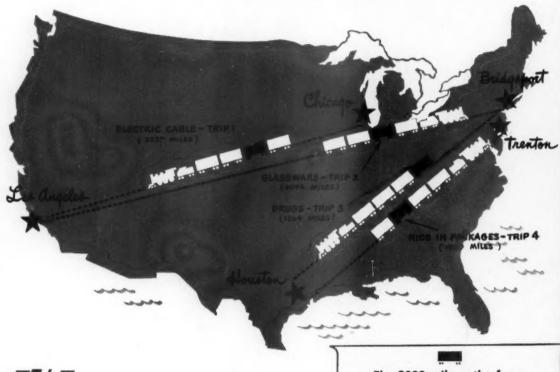
Philadelphia, New York, Washington, Boston, Cleveland, Chicago, St. Louis, Houston, San Francisco,



Never an Empty Mile!

EVANS UTILITY LOADER

IS DEFINITELY GENERAL PURPOSE EQUIPMENT



FOR THE GOOD OF THE RAILROADS

The 9000 mile path of one typical Evans Utility Loader equipped box car. Never an empty mile in three consecutive months of operation!

BUY MORE WAR BONDS

EVANS

Evans Utility Loader equipped box cars have "full-time" war jobs with seldom an idle or empty mile. This is a factor of extreme importance in these days of heavy shipping schedules and increased burdens on America's rolling stock.

The general purpose feature of the Evans Utility Loader is only one of its many advantages. It increases box car efficiency by putting the full cubic and weight capacity to work on every trip. The car above carried 50% more than average load on each movement.

The Utility Loader has other advantages. It eliminates dunnage that is hard to get-reduces car cleaning time and so permits needed freight cars to be under load instead of on the rip track. It is designed to eliminate vertical vibration and longitudinal

shock; principal causes of damage to goods in ordinary box cars. The profit possibilities of the Utility Loader will interest you.

Vision to Anticipate the Needs of Tomorrow





EVANS PRODUCTS COMPANY

Erans War Products: Machine Gun Mounts • Tank and Automotive Heating and Ventilating Equipment • Evanair Water Heaters • Aircraft Engine Mounts • Airplane Landing Gear Beams • Battery Separators • Prefabricated Houses • Molded Products • Skyloader • Utility Loader • Auto-Loader • Auto-Railer • Auto-Stop • Stampings • Evanair Domestic Heating Equipment

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price \$6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 117, No. 5.

ALLO

100



Fuel to carry blockbusters into Europe's skies

Three trains, each of 55 cars, are needed to transport fuel and lubricants to send 1,000 four-engine bombers over Germany on a single mission.

WAND TODAY!

Moving the fuel to power fighting equipment and ships, and for essential home-front uses, is a herculean task; it is a task of which the railways of America are doing a generous share.

As the long strings of tank cars go rumbling out of refinery centers, speeding toward the seacoast or to storage
points inland, many of them are rolling on Bethlehem
wheels and axles; over rails, switches, and other track
equipment made by Bethlehem. The chances are, too,
that many of these tank cars are built of Bethlehem plates,
and that Bethlehem boiler and firebox plates are in many
of the locomotives.

The railroads are handling the greatest volume of traffic in all their history, and Bethlehem steels are helping them to do the job, efficiently and on time.

ALLOY STEELS



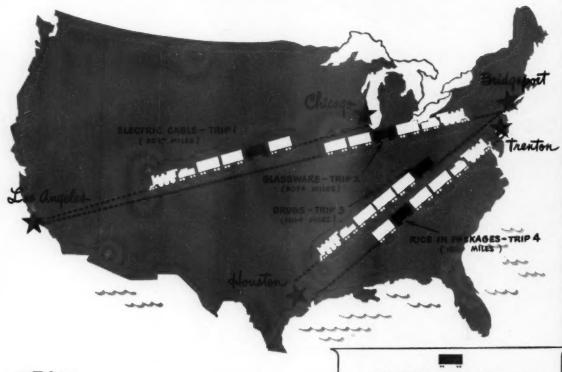
BOILER AND FIREBOX PLATES - BRIDGES - LOCOMOTIVE FORGINGS - MAYARI R (high-strength, low-alloy steel) - FREIGHT CARS

RAILS - SPIKES - SWITCH STANDS - TRACK BOLTS - TRANSMISSION-LINE TOWERS - TUBULAR PRODUCTS - WHEELS AND AXLES

Never an Empty Mile!

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IS DEFINITELY GENERAL PURPOSE EQUIPMENT



FOR THE GOOD OF THE RAILROADS

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BUY MORE WAR BONDS

LOADER EVANS

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Vision to Anticipate the Needs of Tomorrow **Creates New Industries Today**





EVANS PRODUCTS COMPANY

DETROIT

Erans War Products: Machine Gun Mounts • Tank and Automotive Heating and Ventilating Equipment • Evansir Water Heaters • Aircraft Engine Mounts • Airplane Landing Gear Beams • Battery Separators • Prefabricated Houses > Molded Plywood Products • Skylosder • Utility Loader • Auto-Loader • Auto-Railer • Auto-Stop • Stampings • Evanair Domestic Heating Equipment

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RAILWAY AGE

ALLO

100



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BYAGOT HAM TO

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The railroads are handling the greatest volume of traffic in all their history, and Bethlehem steels are helping them to do the job, efficiently and on time.

TOOL STEELS



BOILER AND FIREBOX PLATES - BRIDGES - LOCOMOTIVE FORGINGS - MAYARI R (high-strength, low-alloy steel) - FREIGHT CARS RAILS . SPIKES . SWITCH STANDS . TRACK BOLTS . TRANSMISSION-LINE TOWERS . TUBULAR PRODUCTS . WHEELS AND AXLES Jobs men can't handle...

even when



MAN TODAY!

Albany2-4095	Kansas CityVA 7021
Birmingham 3-3323	Los AngelesPR 5911
BostonCOM 5522	Memphis 8-1648
BuffaleGR 7664	MilwaukeeMA 7817
Charlotte 5026	Minneapolis GE 3247
ChicagoSUP 7420	MontrealHA 7191
CincinnatiMA 0650	New York. COR 7-0797
ClevelandMA 8915	New Orleans, MA 6316-C
ColumbusAD 4824	Philadelphia LO 3710
DenverKE 5500	Pittsburgh AT 6734
DetroitMA 2233	St. LouisLA 4545
Ft. Worth4-6184	San AntonioTR 3653
Greenville534	San Francisco GA 1827
IndianapolisLI 3131	SeattleEL 5722
Jacksonville5-1384	Syracuse2-9596
Toronto	

f Time now to think about Shops and Stores jobs bigger than men can manage safely by hand. Stokers, for one example.

A one-man Elwell-Parker Crane transports the unit at good speed along runways and around corners-holds it at splitmeasurement level for mounting in the tender.

A single Elwell-Parker Crane with interchangeable attachments will speed dozens of jobs-performing the work of men at the front, protecting those you have left. Profit by Elwell-Parker's long experience building equipment for the Railroads-be prepared for the westward traffic flow.

Call the E-P Man in your Main Line City to help plan Systems of Trucks and Cranes for your Terminals, Shops and Stores. The Elwell-Parker Electric Company, 4250 St. Clair Avenue, Cleveland 14, Ohio.

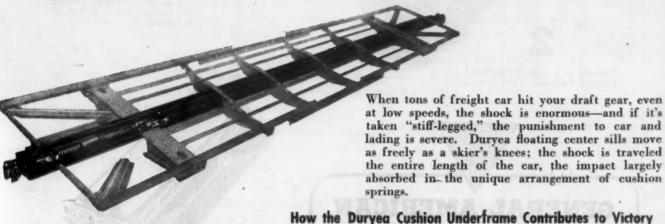
ELWELL-PARKER POWER INDUSTRIAL TRUCKS

Why doesn't it break his leg?

If he landed stiff-legged, it would! But practice has taught him to use his body's resilience, bending at knees, hips, and waist to absorb the shock, to "travel" its force away from the point of impact.



MOVEMENT CUSHIONS THE SHOCK! The same principle, in the Duryea Cushion Underframe, gives you SHOCKPROOF SHIPPING



Here's what actually happens

. when two stationary freight cars receive the same impact, equivalent to a 50-ton car, loaded to capacity, coupling at a speed of 4 m.p.h.: CONVENTIONAL



CAR (A): Draft gear "goes solid," car receives almost entire impact. DURYEA CAR (B): Shock absorbed by cushion gears, car and lading are comparatively undisturbed.

How the Duryea Cushion Underframe Contributes to Victory

PROTECTS car and lading, prolongs car life, cuts damage claims.

PERMITS higher handling speeds.

ELIMINATES gear replacements maintaining efficiency for life of car.

SAVES TIME loading and unloading. Needs less packing and bracing.

SAVES MONEY usually spent for maintenance on every part of car.

COMPLEMENTS air brake; Duryea cars withstand abrupt stops.

CUTS SLACK to pre-determined ideal. COSTS NO MORE than conventional type, for average Duryea gear.

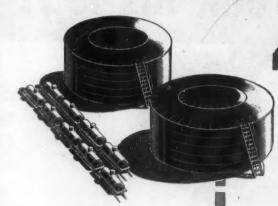
O. C. DURYEA CORPORATION

30 Rockefeller Plaza, New York 20, N.Y. - Field Building, Chicago 3, III. 725 Fifteenth Street, N. W., Washington 5, D. C.

URYEA Cushion UNDERFR

FOR FREIGHT CARS

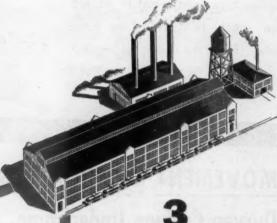
The Modern Safeguard For Sheckproof Shippin



Important Steps

Life of a Plastic

Chemicals stored safely in a General American Terminal...



To a modern Plastics Factory using General American Welded Equipment ...



Shipped in a specially designed General American Tank Car...



GENERAL AMERICAN TRANSPORTATION

CORPORATION

Chicago



Builders and operators of specialized railroad freight cars



Bulk liquid storage terminals







Process equipment of all kinds



Precooling service for fruits and vegetables



Finished Plastic becomes part of lightweight, efficient General American Aerocoach — in the Nation's wartime transportation service.

One of a series of advertisements designed to show General American's contribution to everyday living and our part in the efficiency of American Industry during war and peace.

CLIPPER SHIPS THAT SAIL THE RAILS!

These old eyes have seen many a fine wartime job on the railroads, but I get one of the really big thrills when I look up glistening steel tracks and see those big ocean boats—Liberty ships, four-masted schooners, just plain tramps—rolling over the ties at 40 miles an hour.

What's that you say? Couldn't be? Well now, not quite, of course-

But the effect is the same, and it's a story worth telling.

When Hitter's submarine packs began to terrorize Atlantic shipping, worried officials turned to the railroads to keep our war economy going. Coal, bauxite, oil, sulphur, sugar, zinc ore—huge tonnages that had always gone by boat—were dumped on the rails overnight. More train crews, motive power, track capacity—they had to be found!

Now, there's the sugar story. Before the war, not a single carload of raw sugar moved by rail to the big North Atlantic refineries; ships carried it from the Caribbean to refinery dockside. But when the U-boots came, the vast cane crop was shipped to Florida by boat, then sent north by rail. At peak, 200,000 tons moved each month—a huge rail assignment.

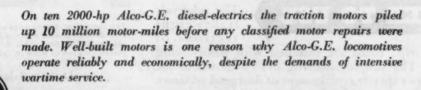
And bouxite. Freighters could get it to New York, but there the rails had to take it for an 800-mile haul up to aluminum plants at Arvida, Canada—some 3000 carloads a month, often in the bitterest kind of north-country winter.

Coal from West Virginia used to roll out to Hampton Roads by rail, then on to New York and New England by water. But U-boats drove coal from the seas, too, and the rails took on a tremendous haul of 15,000 to 18,000 cars a month to make it up.

South Texas sulphur bound east was shifted from ships' holds to gondolas; so was Newfoundland zinc ore bound for southern and western U.S. You know the oil story—up to more than 1,000,000 barrels a day by rail to the East Coast when submarines scuttled our shipping.

That's what I mean by clipper ships that sail the rails. Our railroads are doing their own job, yes—and part of the merchant fleet's, too!

-The Trackwalker*





AMERICAN LOCOMOTIVE • GENERAL ELECT Copr., 1944, American Locomotive Company and General Electric Company *Reg. U.S. Pat. Off.



MAKES MORTON "OPEN GRIP"

SAFETY TREAD....

SAFER

Without welds, rivets or lock joints, Morton "Open Grip" Safety Tread provides maximum safety because

vibration, strain and corrosion cannot loosen or separate any parts. The curved self-clearing surfaces shed water completely—neither ice nor snow can lodge on them. Ample clearance openings are provided.



Each section of "Open Grip" tread is a single piece of sheet steel em-

bodying circular open areas and the famous Morton Kass perforated button. The integral ribs make the tread rigid and of course far stronger than the flat sheet from which it is made.

EASIER TO USE

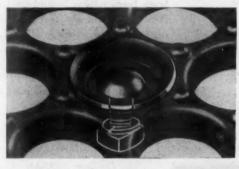
The relatively lightweight sections of

"Open Grip" tread are installed with labor-saving rapidity. The simple fastening device shown to the right allows speedy replacement of damaged sections.

You can get reasonably prompt deliveries on economically-priced "Open Grip" tread now—and it meets requirements set forth in A. A. R. letter circular No. D. V.-1054. Write for complete details and prices.



"Open Grip" tread keeps freight car running boards and brake steps free of snow and ice even in severest weather.



This cup fits any clearance opening of "Open Grip" tread. Bolt through slotted opening fastens tread sections to saddles on car roof. This device eliminates need for precise location of holes in saddles.

District Sales Offices

New York, N.Y.—30 Church St., Courtland 7-7542 Chicago, Ill.—332 S. Michigan Ave., Wabash 6789 St. Louis, Mo.—Paul Brown Bldg., Central 3348 Washington, D.C.—6945 Wisconsin Ave., Bethesda, Md., Wisconsin 7378

MORTON MANUFACTURING CO.

5105 WEST LAKE STREET

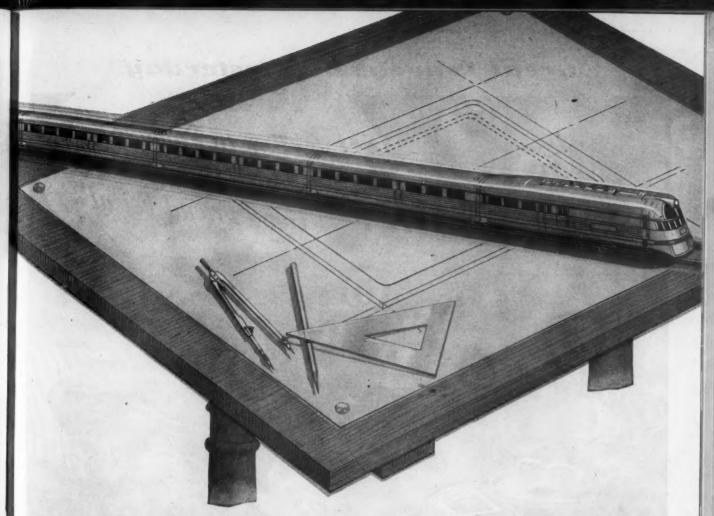
CHICAGO 44. ILLINOIS

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fe



New Eyes by Edwards for Postwar Transportation

To supply new eyes for America's postwar transportation system, Edwards is ready with a new and improved Double Glazed Dehydrated Sash. It has been designed and developed by Edwards engineers as a result of our years of experience supplying and checking sash under every type of service condition.

The new Edwards Double Glazed Dehydrated Sash will bring to the railroads of America these striking features:

Completely weatherproof – no fog, no film, no frost.

- Highly efficient insulation of the window areas while affording maximum passenger visibility.
- 3. Visual "telltale" indicator cartridge quickly and easily replaceable on the face sash top inner rail, indicating at a glance, by color, the condition of the dehydrating agent, to assure control of the moisture content in the dead air space.
- Long, maintenance-free service engineered and tested for troublefree service under all operating conditions.
- 5. Lighter in weight-without sacri-

fice of strength and rigidity.

- Completely assembled units easily, quickly, inexpensively installed and fitted to varying car designs.
- Lower cost per unit—because of Edwards improved design, production experience and use of modern materials.

So, plan now to avail yourself of the many advantages of Edwards Double Glazed Dehydrated Sash in your postwar equipment.

THE O. M. EDWARDS CO., INC. Syracuse, New York



EDWARDS SASH

THE EYES OF TRANSPORTATION



SH FOR EVERY TYPE OF TRANSPORTATION — ON LAND, ON THE SEAS, IN THE AIR

Great Travelers of Yesterday



Had TIME been published in 1916, these are the words with which the late, great British intelligence officer, T. E. Lawrence, might have described the chieftain who led the Arab revolt that

ended in the final defeat of the Turks at Damascus during World War I. For Great Traveler Lawrence would almost surely have been a faithful reader of TIME as most travelers are today.

GREAT TRAVELERS OF TOMORROW

Take today's great traveler, scholar, British intelligence officer Sir R. H. Bruce Lockhart, TIME subscriber 2-13-ZH-09-597. Or look around you at the travelers in any Pullman car or plane or top-notch hotel—in their hands, on their laps, peeking out of their luggage, you will see that traveler's companion: the ever-present copy of TIME.

Plain fact is—TIME readers travel a lot more than most Americans—go on more expensive vacations—

have the bigger jobs that call for traveling-have the bigger incomes that make traveling possible.

The readers of TIME have almost twice as much to spend as the average American—no wonder they are America's most traveled million!

And so, no wonder TIME has been the leader in Travel, Resort, and Hotel advertising year after year for the past 10 consecutive years (except for one year when it was second)!

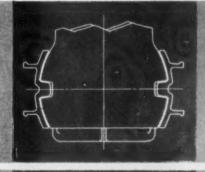
THE WAY TO REACH AMERICA'S MOST TRAVELED MILLION

for safety for stability

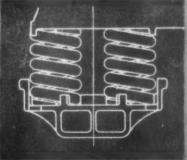
THE A.S.F.



FREIGHT-CAR TRUCK



Here is a rugged truck of simple design that combines all the essentials of a smooth, stable freight-car ride with the low-maintenance and safety benefits of simple construction. The A. S. F. Basic Freight-Car Truck is held together by rugged tongues on the side frame columns that mesh with grooves in the bolster. Curved surfaces between side frame columns and bolster minimize column wear, eliminate binding, and provide generous contact areas that assure dependable operation.



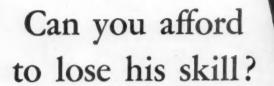
Simple construction is evident in the flanged spring seat that is an integral part of the side frame. Every side frame and bolster meets all A. A. R. strength requirements, of course. And for greater utility, for the interchangeability that means so much especially on interchange service, the Basic Truck can be used with either all-coil spring groups or combination snubber-coil spring groups. The Basic Truck is a safe, easy-riding freight-car truck.

AMERICAN STEEL FOUNDRIES

CHICAGO



MINT-MARK OF FINE CAST STEEL



It may have taken years to train him. It may take less than a second to rob him — and you — of his skill...if his eyes go unprotected on eye-hazardous jobs.

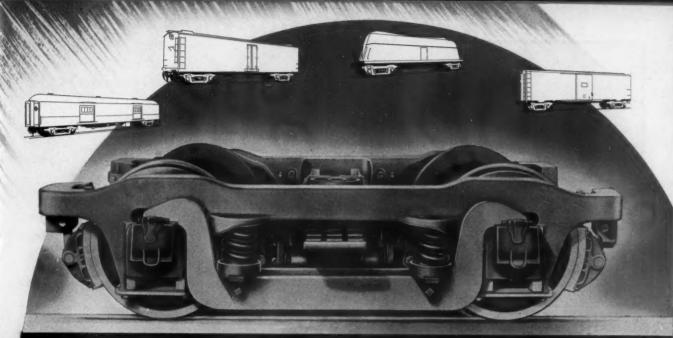
AO Goggles will protect him...and you

For about 75¢ per eye—the price of AO Safety Goggles—you can protect him and hundreds like him who keep your production *going*.

American Optical

SOUTHBRIDGE, MASSACHUSETTS

Call in an AO Man — and keep your "production eyes" producing.



Especially Designed for Express, Refrigerator, or Merchandise Cars in Passenger Train Service

THIS COMMONWEALTH EQUALIZED SWING-MOTION truck meets the demands for a safe, practical, lightweight truck for use under commodity carrying cars operating in high-speed service.

Two spring systems — full-elliptic bolster springs and equalizer coil springs — give increased spring capacity. The swing hanger arrangement permits lateral control. This COMMONWEALTH truck provides better riding which results in less shock and damage to car contents, car body, and track structure. Either clasp or single shoe brakes can be used.

With the general speeding up of merchandise traffic, both now and in the postwar era, it will pay you to investigate all the advantages of this COMMONWEALTH truck.



GENERAL STEEL CASTINGS

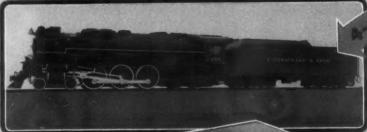
Eddystone, Pa.

Granite City, III.



40 Class K-4 Locomotives built by American Locomotive Company

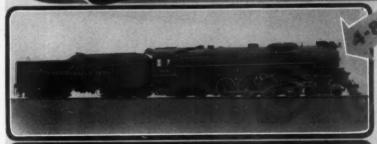
Tractive Power with Booster	83,750 lbs.
Weight of Engine and Tender with two-thirds load	
Wheel Base Engine and Tender	93′ 2″
Boiler Pressure	245 lbs.
Grate Area	90.3 aq. ft.
Tender	-Fuel 30 tons



Class L-2 Locomotives built by Baldwin Locomotive Works

Weight of Engine and	Tender fully loaded \$32,500 lbs.
Wheel Base-Engine	and Tender
Boiler Pressure	
Grate Area	
Tender	Water 21,000 gal.—Fuel 30 tons

Delivered and on order since 1941



2 Class J-3-A Locomotives built by Lima Locomotive Works

Tractive Power with Booster	82,700 lba.
Weight of Engine and Tender with two-thirds load	.813,200 lbs.
Wheel Base-Engine and Tender	98' 5 1/4"
Boiler Pressure	
Grate Area	
Tender Water 22,000 gal	Fuel 25 tons



45 Class H-8 Locomotives built by Lima Locomotive Works

Tractive Power	110,200 lbs.
Weight of Engine and Tender with	1 000 100 Hz
two-thirds load	
Wheel Base-Engine and Tender	
Boiler Pressure	260 lbs.
Grate Area	
Tender	Fuel 25 tons

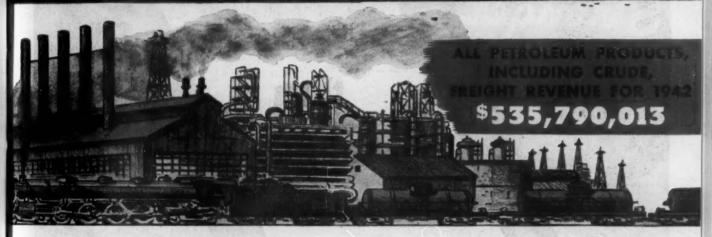
★ These modern, high-powered locomotives operating on the Chesapeake and Ohio contribute to the might of American Railroads' movement of wartime traffic. Standard Stokers play a major role in their efficient operation ... There must be a reason why.

THE STANDARD STOKER COMPANY, IN .NEW YORK . CHICAGO . ERIE . MONTREAL.



MORE THAN ANYTHING ELSE ONL BUILT THE RAILROADS AND KEEPS THEM RUNNING





Pictured at top is the Dun Glen Mine of the Hanna Coal Company in Jefferson County, Ohio . . . one of eight mines and three mechanical cleaning plants operated by the Hanna Coal Company in Ohio. Coal operations of The M. A. Hanna Company and associates are located also in West Virginia, Pennsylvania, and Kentucky.

Wartime acceleration saw coal and coke railroad freight revenue increase from \$791,537,208 in 1940 to \$1,045,005,115 in 1942. With respect to all products of petroleum, including crude, the 1940 revenue of \$232,059,839 increased over 130% to \$535,790,013 in 1942. This magnificent performance in filling the breach caused by tanker losses stands to the everlasting credit of the American railroads. But, with restoration of peace, resumption of ocean traffic, and increased pipe line facilities the railroads' share of petroleum freight revenue will tend to resume former levels.

All analyses of railroad income emphasize the overwhelming importance of coal to the railroads. There is an inescapable common interest—one that should be fostered increasingly for greater advancement of American progress and prosperity.



Lighter

Stronger

There is no safer brake beam suspension than Schaefer

Schaefer loop

brake beam

hangers

Better

STANDARD ON MOST ROADS

Schaefer Light Weight Design Insures more than Car Life

Schaefer

EQUIPMENT COMPANY

PITTSBURGH, PA.

DROP-FORGED FOR LIGHT WEIGHT, HIGH STRENGTH, LONG LIFE AND SAFETY

PHIL

SUPHON LOCOMOTIVES

ARE Better LOCOMOTIVES

20
NEW
MALLET
LOCOMOTIVES

Five Syphons adding 211 sq. it. (nearly 40%) to the normal firebox heating surface of 545 sq. ft.

23,680 SYPHONS USED ON 9,870

LOCOMOTIVES ON 189 RAILROADS

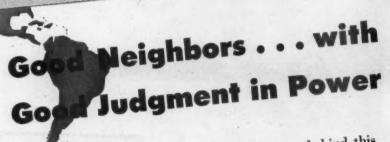
Truthern arrangement with center firebox Syphon, intermediate Syphon and combustion chamber Syphon in longitudinal alignment. Syphons so designed especially for the long fireboxes and combustion chambers of Mallet locomotives serve as a stable support for any desired length of arch, provide safety from bottom explosion and with increased heating surface and circulation and much to boiler efficiency and averall boiler have engaged.

Cocomotive Firebox Company

PHILADELPHIA

CHICAGO

MONTREAL



Just as the railroads were the dominant force behind this country's rapid growth and expansion—so, today, are railroads taking the leadership in developing the vast, untapped resources of the Americas which lie to the south.

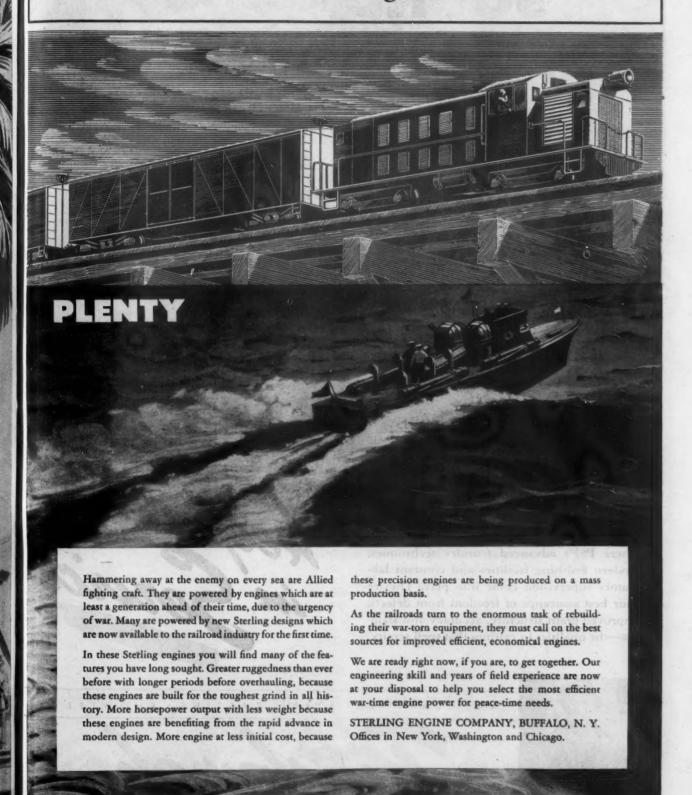
In choosing Cummins Diesels to drive many of their locomotives and fast motor trains, these Good Neighbors of ours have demonstrated that they have good judgment in power . . . because operating records show that Cummins Diesels consistently cost less to run . . . and less to keep running.* Cummins Engine Company, Inc., Columbus, Ind.

*In the United States too, railroads are getting this same superior operating and maintenance economy from Cummins Diesels in switching locomotives, motor trains, and in auxiliary power plants aboard streamlined passenger trains. For the railroad equipment you are despited to a superior of the superior will operate tomorrow, specify modern, high speed Cummins Dependable Diesels—125 to 475 hp.



THROUGH HIGH SPEED DIESELS

What's new in Engine Power?



REEP BUYING WAR BONDS







In car-building, the very function of steel castings—to carry the loads and take the shocks and impacts—is bound to put a premium on soundness and strength. That's where PSF's advanced foundry techniques, modern finishing facilities and constant laboratory supervision come into play. They're your best assurance of freedom from defects, improved grain structure, accuracy and stamina—the qualities in castings that spell service.

keep cans in Service



46 YEARS OF STEEL CASTING KNOWLEDGE

Pittsburgh

STEEL FOUNDRY CORPORATION

GLASSPORT, PA.

Sales Offices: NEW YORK . PHILADELPHIA . WASHINGTON AND CHICAGO

Railway Age

With which are incorperated the Railway Review, the Railroad Gazette and the Railway-Age Gazette. Name Registered in U. S. Patent Office

Vol. 117

DUBLISHED EACH SATURDAY
BY THE SIMMONS BOARDMAN
PUBLISHING CORPORATION, 1309
NOBLE STREET, PHILADELPHIA
33, PA., WITH EDITORIAL AND
EXECUTIVE OFFICES AT 30
CHURCH STREET, NEW YORK T,
N, Y, AND:105 W, ADAMS STREET,
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July 29, 1944

No. 5

In This Issue

Vastly increased freight traffic causing troublesome delays in train movements led the N. & W. to establish a system of centralized signaling along 107.8 miles of single-track and 10.5 miles of double-track.

2-8-4 Type Freight Locomotives for the C. & O. . . 200

Described herein are recent Alco deliveries of 40 units having 69-in. drivers, 460,000-lb. engine weight and a tractive force of 69,350 lb., and representing advances in design refinement and the application of modern specialties.

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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service



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"Union" Relay Interlocking

an effective means for consolidation of interlockings!

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NEW systems and devices for the control of switches and signals from a remote point have reduced the cost of centralization of interlocking controls.

One railroad, in order to reduce operational delays and expedite train movements, economically consolidated the controls of an extended track and signal layout by installing a "Union" Relay Interlocking System, using the unit-lever machine illustrated above.

Miniature levers for the control of the interlocking functions, including 39 power-operated switch machines and 68 searchlight signal units, are conveniently located on the panel of the machine...lever lights indicate positions of switches and signals... track model lights show locations of trains... and routes are speedily and safely established through simple manipulations of the levers.

UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PA.

The Week at a Glance

SECRET UP TILL NOW: Actual figures on the magnitude of the transportation job accomplished by and in behalf of the Army have been revealed by Major General Charles P. Gross, chief of transportation, in a statement reviewed in our news pages (disclosures so striking that we should have made a feature article of them, except that the release came to us right at press time, necessitating our tucking it in where some space was still "open"). From December, 1941, through June this year 23,300,000 troops have been handled domestically in organized movements-21/4 per cent by highway and 973/4 per cent by rail. A total of 173,400,000 tons of Army freight and express have been moved by domestic railroads and less than 81/2 per cent as much by truck. More than 4 million troops have been transported overseas and, with them, more than 63 million ship-tons of supplies. The General is particularly proud of the T. C.'s Military Railway Service, and of the enormous and effective job of traffic management the Corps is doing.

TRAIN RADIO SAVES TIME: The Burlington has had some practical experience of the delay-avoiding possibilities of head-to-rear radio. A brief article in this issue relates how, in test runs, this device is accelerating the get-away by transmitting the high-hall to the head-end reliably and promptly when leaving sidings and elsewhere. Information that the test train had a car with a hot box was quickly relayed to the engineer and a set-out made, with minimum loss of time and without the rearend having to pull the air, thereby risking a break-in-two. Just what break-in-two avoidance means was dramatically demonstrated by a train which suffered one (as the result of air pulled from the caboose because the train had a hot box). pulled-out draw-bar delayed for two hours the train affected, and also, by tying up the line, enforced similar delays to the test train and another one-i. e., a total delay of 6 train-hours.

TRAFFIC UP SIX-FOLD: The Shenandoah Valley line of the Norfolk & Western was a comfortably quiet stretch of railroad back in 1939-with two passenger trains and three through freight trains daily in each direction. Then came the wartime decline in coastwise coal movement-and the Shenandoah line's traffic shot upward to six times its 1939 level. This increase did not occur without bringing some headaches to the operating department-which were alleviated by a short piece of double-tracking and the installation of two substantial sections of C. T. C. (embracing just about half the entire length of the line). An article herein describes this improvement, and relates how it is accelerating trains by better than an hour on one engine district and about an hour on the other.

WHEN IS AN ENGINE OLD?: There are engines 30 years and more old doing a mechanically-satisfactory job of moving traffic here and there on the railroads. But, assuming that the carriers' job is to move

traffic satisfactorily with the minimum economic cost—the cost of an existing equipment installation must always be compared with currently-available alternatives in order to get a true picture of the relative economic antiquity of a given fleet of power. This complex and important problem is analyzed in an editorial in these pages, which concludes that 20 years is old enough.

NO RAILROAD SHORTAGE: A lot of wheat has had to be piled on the groundon farms and at country elevators-but, as one of our editorials points out, it is not congestion on the railroads which has necessitated this undesirable expedient. Rather, the blockade has occurred in the labor supply at the elevators; the railroads have been able to move all the grain that the elevators have been able to receive-which is further evidence of the truly revolutionary efficiency in the use of transportation facilities which has been secured by carrier-customer cooperation. Maybe this sounds like an old story, but the magnitude of this accomplishment is as yet imperfectly realized, probably even by most railroad men. The question arises, of course-since collaboration works so miraculously on this carrier-customer problem, why wouldn't it work on others?

40 NEW 2-8-4's: The Chesapeake & Ohio has some evolutionary new locomotives (described in an illustrated article in this issue), which represent further refinement of a prototype initiated on the Nickel Plate in 1934, and carried further forward in a subsequent acquisition of power by the Pere Marquette. The C. & O. engines develop 83,750 lb. of tractive force (booster included) and have east beds, roller bearings, and other modern specialities, application of which is recorded in our description.

OFF-TRACK INNOVATION?: Maybe your non-technical observer is poorly informed—but isn't a tough Army half-track something new in off-track maintenance of way equipment? To the inexperienced eye, the picture at the bottom of page 188 seems one of the most suggestive in as fine a bunch of photos of railroaders at war as we have published, or seen anywhere else.

TIE RENEWALS DECLINE: Railroads on the North American continent inserted about 45½ million ties in track last year, a decrease of 6½ per cent from 1942—despite much heavier demands on the track structure. The performance is tabulated in an article in this issue.

B. & O. LIBRARY: At its headquarters office the Baltimore & Ohio has for some months had in operation a reference library—started with a donation of books by the late Daniel Willard. Intended primarily to provide reference material (not only books, but clippings and other information sources) to answer questions which occur to the company's executives in the course of their duties, the library also serves other inquirers. Its services are particularly helpful in keeping up-to-date with developments which may have a bearing on the company's post-war position.

SOCIALISTIC BUSINESS: One or two people prominently connected with manufacturing, seemingly uncomfortable at our persistent citations of instances of industrial leaders who practice socialism toward transportation while they preach "free enterprise" for their own business, have told us we are too critical. "Business people oughtn't to call names at each other," they say. This latter observation is true-just calling names and seeking to arouse emotions to replace thinking is thoroughly mischievous. However, it so happens that, while the term "socialist" can be used as an invective, it is also a descriptive term properly used to designate persons who seek government intervention to shift the costs of economic services to others than the users of such services. In this technically accurate sense, there are some prominent American manufacturers, whose policies toward transportation can-as the language stands todayonly be accurately characterized as "socialistic," as is pointed out in the leading editorial herein. It is regrettable that there are those who read an emotional content into a term essential to intelligible analysis.

RAILROAD SOCIALIZATION?: Our editorial demonstrates that the policy at present followed toward highway construction and finance (and recently emphatically re-stated) by some of the nation's leading automotive manufacturers is of a character to which the descriptive adjective "socialistic" must be applied by anyone seeking accurate characterization. (It is dead certain that this policy cannot be called "capitalistic", or "free-market", or "non-interventionist"; it is the antithesis of the policy which these manufacturers indicate that they desire to be followed in public policy toward their business.) Our analysis further demonstrates that the policy toward waterway and highway finance [socialistic policy, for lack of an equally fitting and less offensive synonym] is making it increasingly difficult for the railroads to finance desirable improvements in the orthodox capitalistic manner.

AIRWAYS TOO?: A speech by Assistant Commerce Secretary Burden on the nation's airport construction policy is reported interpretatively in the news pages. In brief, he proposes that airports should be developed-not by private capital as called forth by consumer demand in the old-fashioned free enterprise manner—but by governmental "enterprise", political planning, and "federal aid." In other words, what he wants is all-out socialization of airport facilities, and to date we have heard no complaints from "free enterprisers" in the aviation business. Moreover, the U. S. Chamber of Commerce by a referendum vote has just gone on record as favoring, with inconsequential qualifications, almost precisely the socialistic approach to airport development favored by Mr. Burden. If everybody else in transportation is going to reach a hand into the public pocket, how long can the railroads persist in their genteel and undernourished self-reliance? Will their shippers and the armed forces permit them to hold back, to the detriment of their service, even if they wish to?

SYMBOLS OF PROGRESS

SPEED

for faster schedules with maximum safety . greater protection to equipment and lading

HIGH AVAILABILITY

with minimum "time-outs" for servicing and repairs

POWER

for greater tonnage-hauling capacity

TRACK CAPACITY

greatly increased without costly changes in rails, bridge structures or tunnels

ECONOMY

in lower fuel costs... no expensive supporting services required

REVENUE

increased by lower operating and maintenance costs

PRECISION

in standardized parts for easy and quick replacements



ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION LA GRANGE ILLINOIS US A

RAILWAY AGE

Automotive Manufacturers as Socialists

The essential nature of free enterprise is that it asks a minimum of government interference and no governmental favors. As highways are in public ownership, government action is necessary to finance, build, and maintain them. But government-owned economic facilities do not have to be socialistic. They can be provided and maintained on a self-sustaining basis by requiring those who use them to pay the full costs of their use. Government must charge users of highways the full costs of their use, or the highways will be used competitively to undermine private business which cannot collect its costs from anybody excepting its customers. Selection among alternative services by customers is determined by rates or prices, not by costs, when costs are borne in whole or part by government.

This necessary pattern for the preservation of private enterprise has been persistently violated in transportation during recent decades as government "investment" in transportation facilities has increased. Waterway improvements are provided without any charges at all to users corresponding with those which users would have to pay if these facilities were in private ownership. Highways are improved and maintained by a jumble of fees and taxes on both users and non-users, with the result that people are made to pay for the highways, regardless of their use of them. Direct charges for the use of highways bear only a fractional relationship to the degree of use and the cost of the facilities used.

The manner of financing expenditures upon highways and waterways has increased the competitive and financial difficulties of the railroads in proportion as the magnitude of socialistically-financed transport facilities has risen. The railroads cannot build costly improvements unless they can find ways of collecting carrying charges covering their full costs from those to whom they sell their services. They cannot build a "super-railroad" up and down the Atlantic seaboard and make the people of Louisiana, Kansas, and California help pay for it. But a "super-highway" can be built and financed anywhere at the expense of people who make no use of it. This is exactly the proposal made in the so-called "Toll Roads and Free Roads" report (1939) of the Public Roads Administration, which recommended construction of an inter-regional system of super-highways to be paid for, not by the actual users, but by taxes on motor vehicle operators and the public collected regardless of their use or non-use of these particular highways.

The "Automotive Safety Foundation," an organization of leading automotive manufacturers—the purpose of which appears primarily to be to foster their ideas of highway finance—has just issued a "Statement of Highway Policies" in which it strongly urges both the construction of the super-highways, and the socialistic method of financing them recommended by the Public Roads Administration. The Foundation advocates a large program of post-war highway construction, proposing that users pay only "their share" of the costs, implying thereby that there is a "share" to be paid by others. On this same socialistic type of reasoning, a user of the railways should pay only his "share" of the cost of the railway service he uses, general taxpayers to pay the rest of the cost because of the contribution the railroads make to national defense and because railroads sustain the economy by getting products to market cheaply.

The Foundation insists also that taxes paid by highway users be not "diverted" to non-highway uses, which means, of course, that the investment in highway plant should not yield any revenue whatever



toward general governmental expenses. Railroad plant and industrial plant would have to pay, not only their share of general governmental expenses, but also the share appertaining to highway plant

because it is to be exempt.

Large additional expenditures for heavy-duty highway improvements under the kind of financing insisted upon by the Automotive Foundation would subject the railroads to further inroads on their traffic and revenues that are not economically justifiable, but made possible by commercial use of the highways largely at public expense. Private capital will not continue to finance improvements in railroad plant if public funds are going to develop highways to the degree and by the methods favored by the automotive manufacturers. If such proposals are made effective, the railroads themselves will have to seek socialistic government aid in order to keep abreast with the needs of industry and the national defense.

Automotive manufacturers are leaders in demanding restoration in this country of what they call "free enterprise." The transportation policies they advocate are the antithesis of "free enterprise" and as socialistic as those advocated by any New Dealer deriving his inspiration from eastern

Europe.

Keeping Railway Plant in Pace with Industry

The present inability of the farmers and country elevators in the southwest to move the near-record crop of winter wheat to terminal markets affords an illustration of the intimate relationship that railway service bears to industry. Preparatory to the opening of the harvest, the railways serving this area surveyed the anticipated demands on their facilities and at a meeting of the Trans-Missouri-Kansas Shippers Advisory Board in Kansas City in June plans were made to cope with the movement. At that time, representatives of different railways expressed conflicting opinions regarding their ability to meet the demands that would be made

Shortly after the harvest began, reports began to appear about the large quantities of wheat that it was necessary to "pile on the ground" on the farms and at the country elevators. Coincident therewith, embargoes were issued against the loading of wheat to important terminal elevator points. Such a condition points, at first glance, to a lack of railway facilities. Yet this is not the case, for the difficulty lies in a shortage of labor to unload and process the grain at those elevators. This has resulted in an accumulation of cars awaiting unloading at the elevators, a situation that has been accentuated by resort to subterfuge by some shippers. Thus such congestion as has occurred has been due to no lack of railway facilities, for the railways have, to date, been able to supply all cars for which unloading facilities could be provided at the total supply of lumber, while the remainder was left destination.

This lack of ability of the elevators to handle the grain that the railways were able to deliver to them duplicates the experience of 1941, when early and widespread fears throughout the grain belt, regarding the anticipated inability of the railways to meet the demands, disappeared when it was found that the elevators were then so nearly filled with government-loan wheat as to leave them little capacity for new grain, and the present system was put into effect by the Interstate Commerce Commission to limit loading at its source to that which the terminal elevators were able to absorb. Here again, the limit was determined by conditions at the elevators rather than by the capacity of the railways.

Still another example of the intimate relationship that exists between rail and related facilities is afforded by the handling of iron ore. In 1942 the nation's military authorities developed a program that required greatly increased production of steel, and this in turn pointed to the need for a record tonnage of ore from the Lake Superior area. The railways serving that area set about to bring this ore from the mines and transfer it over their docks into boats. In spite of the program exceeding that ever before attempted, they were able at all times to deliver to boats more than the boats were able to take away. In other words, the limiting factor here again was other than rail fa-

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The illustrations, and others that might be cited, demonstrate with what care railway managements have kept their facilities abreast and ahead of the demands that are being made upon them. They reveal how closely the development of the railway plant has been integrated with the needs of its patrons.

L-335 Promises

Equitable Distribution

Doubt as to its actual necessity and questions as to the need for the broad scope of Order L-335, the overall lumber control order that in its recently amended form becomes effective on August 1, have been expressed in some quarters. Basically, the order is intended to assure supplying any unforeseen military requirements, and at the same time to cause the least disruption of normal trade practices. Officers of the W. P. B.'s Lumber and Lumber Products division declare that since the nation's armed forces have not at any time so far actually suffered from lack of lumber. it is their avowed intention to employ every means and to exercise every precaution to maintain an adequate flow of lumber for military needs.

Order L-335, as a flexible control for lumber, is designed primarily to fill military requirements and the essential civilian needs of the country. The old controls, that were superseded by L-335, provided channels for the war-use of a certain proportion of the to be scrambled for by all other users. As a result of three years of scrambling, lumber inventories have been reduced to the vanishing point and lumber supply has attained the same position that metals occupied at the

beginning of the war.

Lumber Orders M-361, M-364, L-290, and L-218 placed obligations on certain groups of producers and gave preference to certain classes of purchase orders, but they placed no restrictions on consumption. These designated groups of producers were subject to instructions from certain classes of consumers while the rest of the producers and the distribution branch of the industry were ignored or told to operate under the priority system. Consequently, there was little restriction on users or quantities they demanded.

Order L-335 is a consumer order, designed to bring the needs of war and essential civilian requirements within the limit of supply. It is a bulk order and, as such, does not involve species, grades or other such details. It is a basic document that eliminates five other orders which may now be forgotten. Its form is relatively simple and its language is clear and well chosen. Rather than attempt to incorporate the many ramifications of the entire industry within a single order which would of necessity have been complicated, bulky and awkward, L-335 is designed to remain, with relatively little change, as the over-all wartime control, while specific phases of the industry are governed by a series of "directions"—which in this instance apply to classes or groups and should not be confused with "directives" which apply to individual concerns.

Separate "directions" already have been issued, one for each industry, including Douglas fir, Western pine, Redwood, Southern yellow pine, cypress, all other softwoods, the hardwoods and the distributors. These "directions" may be amended at any time to meet prevailing conditions that call for tightening or relaxing control. Far from being hastily prepared, the order is the result of considerable study and effort on the part of men long trained within the lumber industry. The order will be administered by the Lumber and Lumber Products division, and it gives promise of providing a fair distribution of available supplies to essential civilian industries.

How Old Is an Obsolete Locomotive?

In many discussions of the problem of motive power capacity that have appeared in this publication from time to time over the past three or four years the term "obsolete locomotive" has been used, and we have recently been asked by several of our readers just what an obsolete locomotive is. That is a question to which there are several answers, and the only way the term can be accurately defined is on a specific basis, namely, by taking into consideration exactly the type of service for which the motive power is required.

Approximately 20 years ago a railroad having a

large volume of relatively slow-moving traffic found itself in the position of having to handle 4,000-ton trains over a 30-mile mountain grade with one 2-8-2 type locomotive and from three to five older 2-8-0 type helper engines. So unsatisfactory was the performance from an operating standpoint that a series of operating studies was made with a view to improving performance and reducing cost. Electrification was considered, but the character of the traffic did not at that time justify complete electrification, and the problem was finally solved by the building of what were then the largest 2-8-2 type locomotives in service. The heavy trains, after the introduction of the new power, were handled over the mountain grades by one of the new locomotives and two of the older 2-8-2's. Consolidation motive power was retired, most of it to the scrap heap and part of it to branch-line service. These 2-8-0 type locomotives, lacking as they did the capacity and operating characteristics for main line service, were retired from that class of service at an age of less than 25 years.

This same road, 10 years after the introduction of the heavy 2-8-2's, started the use of the 4-8-2 and the 4-8-4 type locomotive in freight service and today, after another 10 years, more than 60 per cent of the main-line traffic is handled by a small group of 50 modern 4-8-4 type units. On the mountain grade the helpers consist of the few remaining 2-8-2's and the 4-8-2's. Here again, in approximately 20 years, this road is experiencing an almost complete change in the character of its motive power for freight service.

It is true that the character of freight traffic on that road has also changed, as it has on most all railroads. Today the tonnage is just as heavy and it must move over the road at a higher speed. It therefore requires a type of motive power that has the boiler capacity to handle these heavy tonnages at today's speeds. The older power must be shopped for general repairs after approximately 90,000 to 100,000 miles of use, while the new power will run two to two-and-one-half times that far. For all practical considerations the cost of maintenance, per locomotive-mile, may be said to be the same for both the old and the new power. The difference lies in what the railroad gets for the expenditure of equivalent sums of money.

Such examples as these make it difficult to sustain an argument that for main-line traffic a locomotive of much greater age than 20 years is of very much-value. Such locomotives may serve well the requirements of branch-line traffic, but, even there, there is a question as to whether or not a Diesel-electric may not be more economical for the job.

Some mechanical officers support the contention that a locomotive has to be 30 years old before it can be considered obsolete. This is a matter of opinion, but there is one thing on which all can agree—after they pass the age of 20 they require more money to operate and maintain and the chances are that progress in motive power design automatically will have headed them toward retirement.

With the 713th Ry. Op. Bn.

By Tech. Sgt. Louis L. Russell

Photos by Krinke, 713th Ry. Op. Bn.

in Italy

N the morning of October 6, 1943, as I leaned against the rail of a transport ship, I looked upon a ghost city. or perhaps I should say skeleton. As Navy gunners constantly squinted at the sky, members of our railway operating battalion climbed down mesh rope ladders into armored landing barges. The harbor was full of such barges as they scooted back and forth, unloading a convoy of fighting men. The LCI on which I was riding gingerly picked its way through the many masts of sunken ships and occasionally the bottom side of a ship would appear here and there, looking like a

long slice of watermelon
dropped upside down into
the sea. The buildings along the wharf were still
smoking and in utter wreckage. The silent city lay

stretched before us, gaunt and weary.

Our battalion was finally assembled in the dock area and we marched away. In some battered warehouses at the west end of the railroad yard we were quartered. We were dirty and tired from a seven-day trip across the Mediterranean but there was no water for bathing. The retreating Germans, who were then only ten miles to the north of us, had blown up the water mains. All



How Erupting Vesuvius Looked to Army Railroaders

water was hauled by tanks on trucks, even for the long strings of civilians waiting with their bottles and jugs.

Late that afternoon the men began to make a preliminary inspection of the yards. The demolition had been terrific. Charred and twisted cars were strewn around haphazardly, with lengths of rail, crossties still attached, pointing toward the sky. About 9:30 that night, while the men were restlessly settling down under the incessant booming and flashing of heavy artillery to the north, we experienced our first air raid in Italy. There were no air raid shelters nearby, so we watched through doors and the holes in the roof, while hundreds of tracer bullets streaked skyward and flak burst high above us.

The next day I accompanied some of our officers and non-coms on a tour of the yards. That was on a Wednesday. 1st Lt. R. H. Anderson, yardmaster, from Newton, Kans., said, "I believe that we can get a train out this way by Sunday." I had my own ideas about getting trains or anything else through that mess for a month, but I asked him, "You mean Sunday after next?" "No," he replied, "next Sunday, five days from now." I wanted to ask him: "What are you going to use for engines? Where are you going to get the cars? And after you get them, where are you going to run them?"



Company "B" Men Inspecting Bomb Damage Done in a German Raid the Night Before. T/4 B. J. Slater (Ash Fork, Ariz.) and Pvt. J. A. Vick (Conroe, Tex.), Injured in the Blast, Both Received the Purple Heart

Machinery Cleverly Damaged

Four days later, on Saturday, a train was run northward for a distance of four miles. It was a test train, a wheezing, old Italian 0-6-0 class engine pushing ahead of it five cars. Conductor Woodrow Boice, Chicago, and his brakemen handled the switches gingerly on this trip, since many of them had been discovered to be mined. Four days later, six trains, averaging 450 tons each, were moved to the forward railhead. During the

first week of operation 45 tonnage trains were moved over a total of 588 miles to deliver 31,839 gross tons of munitions and supplies to the front lines. Some five months later, during one week, 126 tonnage trains were operated over 2,390 miles of track to handle 75,758 gross tons.

Bear in mind that, to begin with, our shop forces of "B" Company had three beat-up Italian locomotives that the Germans had either overlooked or scorned to waste time and powder on. We found what had been two fine roundhouses a maze of debris, with all machinery cleverly damaged. Within a few days "B" Company had set up enough machinery to service eight more Italian engines which had been dug out of the wreckage. These engines were used in switching on the few tracks that had been repaired in the yard and in handling supplies from the docks to these yards.

Company "A," the maintenance of way forces, had pitched into the melee with even more fervor than that with which they had distinguished themselves in North Africa, where they won a Legion of Merit award for their commanding officer, then Captain and now Major Hal E. Wilson, assistant superintendent. This gang cleared away a number of tracks and on October 10 they moved up about 7 miles to the north and about an equal distance behind the retreating enemy. There, during four cold and rainy days, they cleared away damaged equipment and litter, placing and tying down 8,500 feet of rail. Moving right on the heels of the Fifth Army infantry, this group of men rolled up their muddy pup

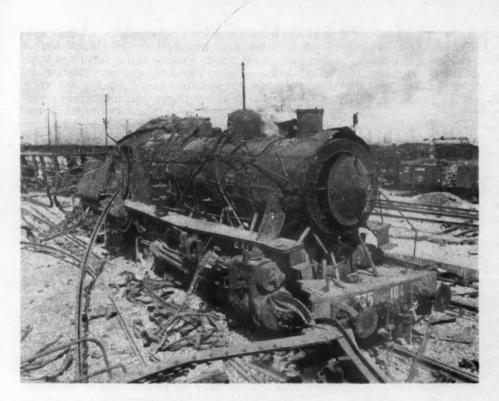
tents and moved, on October 21, 10 miles further north. There in seven days they put into use 18,000 feet of utterly destroyed track. Putting in this amount of track included clearing away wrecked equipment, tearing out old rail, cutting and drilling rail, surfacing and tying down rail ready for use. During this time it was necessary to repair damaged bridges and construct impressive fills. They continued in this manner, working from sun-up until sun-down, making it possible for the vital railway supply line to keep the front lines stocked with munitions and equipment. At times they were bawled out by the artillery units for getting in their way. In short, they were living the life of combattants with little time to protect themselves while doing non-combattants' work.

The "Haywire" Days

Dispatching trains was quite a job. The dispatcher's biggest problem was amply summed up by Technical Sergeant Jack M. Longfellow, of Winslow, Ariz., "I know if ever I am a failure I can blame it on failures—engine failures." In keeping his trains rolling, Dispatcher Longfellow many times sent out an engine to bring in an engine, only to have to send out another to bring them both in. It was no reflection on the shop forces, they just simply could not make something out of nothing. Those were the pioneer days or "haywire" days. It wasn't exactly baling wire, but wire did give

Roundhouse Four Months after Its Occupation by the 713th—Note Bomb Hole in Roof Near Middle of Building; Also the Demolished Building at Right





A Rough Idea of What Roundhouse Forces Had to Contend With. Below: What a Bomb Blast Did to a Piece of Track



the dispatchers many a headache. The railroad lines we had reclaimed had been converted to use of electric locomotives prior to the war. All of this overhead wire had been cut and blasted so that the right-of-way looked as though so much over-size confetti had been strung about. Even after hastily clearing away this entanglement, sabotage or destiny would leave more of it in the path of heavy trains. Often as not a train would grind to a stop, securely bound and wrapped. The operator would then laconically call in to the dispatcher, "Well, we are all tied up again." Now the dispatchers handle as many as 60 trains per day with efficiency and ease.

There is one group of men of whom you see or hear little. That is the Signal Section, but without their skill and fortitude the rest of the battalion's efforts would be

for naught. In the early days in Italy they battled their way through a maze of wreckage to lay and repair lines. They continually were harassed in "trouble shooting." Communication lines were going out at all times, due to sabotage, bombing raids or collapse of nearby structures. This handful of fellows frequently had exciting times up near the front lines. A detail was often sent up ahead to set up communication lines, preparatory to following through with supply trains.

On one occasion, one of the signal men was perched on a pole, testing with his "hook-up" phone. He was being disturbed by the constant "wham!" of big shells and other noises of battle and he proceeded to unload to the man some fifteen miles back down the line. "Say," he bellowed, "can you hear the noise down there?" "Faintly," came the answer. "Well, it ain't faint up here. I'm the one about to faint. Besides someone is getting too blinkety-blankety ambitious over here. What do they want, a hook-up with Kesselring himself? If I am going to work up here with the infantry, I want a fox hole and not a pole. I'm coming down now and getting the hell out of here."

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Much success of the Signal Section goes to Lt. James O'Neil, of Kansas City, Mo., who now has his

Half-Tracks Have Proved Their Versatility as Off-Track Maintenance Equipment





This Spectacular Display Was Provided by Allied Anti-Aircraft Guns During an Enemy Raid (Photo Was Taken at 10 P. M.)

department operating with the same smoothness and efficiency as is shown by the battalion as a whole.

"Dear folks, today we built a railroad," one of the trainmen wrote back home. He meant that literally, too, since the transportation company really pitched in to do track work and help clear the yards. At first we were faced with the situation of having over 300 enginemen and trainmen with nothing to operate. They were promptly assigned to help clear the yards.

Sgt. Tomer's Reclamation Dept.

One gang, composed of engineers, firemen, brakemen and yard clerks, made quite a name for themselves. They became known as "Sgt. Tomer's Reclamation Department." Sgt. Fred A. Tomer, of Mattoon, Ill., was a conductor but he took charge of the willing men and they pushed through the wreckage like a bulldozer. This gang at first cleared and placed track, then as more Italian laborers were put into the yards, Tomer wound up reclaiming serviceable cars. On looking around, he found a German wrecking crane and was soon snagging out as high as 100 cars per day from the wreckage. Another gang, under the direction of Sgt. Ralph M. Whitton, of El Paso, Tex., cleared away miles of mangled and tangled catenary wire, which was strung over and across the tracks.

The company received a letter of commendation from the Director-General regarding the fine manner in which they had adapted themselves to the critical situation and performed strange work with remarkable results.

This situation soon reversed itself and the transportation company had more than it could handle. Enough engines had been put into service, counting some G. I. engines which had arrived, to require 30 switch crews and 20 road crews. This did not include yardmasters, yard clerks, switch tenders, etc., all of which were drawn from the crew roster. The crews were working furiously, never getting sufficient rest. The first sergeant stood guard, the supply sergeant went firing and the platoon sergeant went out as a conductor, all because of an acute shortage of men with heavy tonnage moving to the front. Thirty full crews from the 727th Railway Operating Battalion were attached with us to help handle the booming business. These men, veterans of the North African

campaign, said that they had never been so hard pressed as they were during December and January when we had every available man hard at the task.

Soon after the first part of 1944, a few U. S. A. Diesels began to arrive, then came a number of G. I. oil-burning locomotives. Break-downs on the road began to cease, yard facilities at intermediate points were being increased, track conditions were greatly improved; and this, with overall general improvements, resulted in a higher tonnage rate than ever being handled with more ease.

When you think or read of the Fifth Army you will be thinking and reading also of the 713th Railway Operating Battalion. We came in with them and when the Fifth is on the move again we hope to be moving with them. When I say "with" them, I mean just that. As one of our conductors, Sgt. John D. Hall, Harrisburg, Pa., said, "Fellows, I almost made a terrible mistake today. We went so far up the 'boot' that I durn near turned my train over to a German yardmaster before I realized where I was."

Burlington Tests Radio for Train Communication

URING July, the Burlington has been making extensive tests of radio for head-end to rear-end twoway telephone communication on freight trains. The trials included two round-trips between Chicago and Denver, and one round-trip between Chicago and Kansas City. The radio apparatus consisted of sending and receiving sets in the locomotive and in an instruction car which was coupled just ahead of the caboose, the radio apparatus being installed in this car because the cabooses are changed at each division point. A further reason was that the storage batteries on the instruction car were used to operate a small motor-generator to supply the radio. These experiments are being conducted in the frequencies above 150 megacycles where channels are less crowded and, therefore, should be more readily available for permanent assignment. The equipment was furnished by the Radio division of the Bendix Aviation Corporation.

Utilization in Train Service

One of the purposes for these tests was to secure records of instances in which head-end to rear-end telephone communication would be useful in the operation of freight trains. The freight train which left Chicago for Denver at 2:40 p.m. on July 14, consisted of a Diesel-electric locomotive with 99 loads and 12 empties, totaling 5,265 tons. On account of curves, trees, and cuts, hand signals from the rear could not be seen at the head end of the train at many places. In the yard at Chicago, when the train was coupled and the train line pressure pumped to 65 lb., the radio was used by the conductor to give the engineer a "high ball." This saved about five minutes as compared with passing hand signals. On the division between Chicago and Galesburg, Ill., track work necessitated slow orders at various locations, and in each instance when the rear of the train cleared the slow board, the radio was used to inform the engineman so that he could accelerate the train at once, rather than continuing at low speed for a considerable distance.

At Earlville, Ill., a crossing frog was being replaced on the westbound track, and the westbound test train was diverted to the eastward main for 13 miles between So-



Left to Right: T. W. Wigton, Supervisor of Electronics, H. H. Hasselbacher, Superintendent of Telegraph, and H. C. Murphy, Assistant Vice-President, in the Instruction Car at the Rear of the Freight Train

monauk and Earlville. The speed was reduced to about 25 m.p.h. when passing through the crossovers, and in each instance, as soon as the rear-end cleared the crossover, the radio was used to tell the engineman, so that the train could be accelerated at once.

Saves Time for a Hot Box

When passing Buda, Ill., the agent, by use of the conventional sign, informed the rear brakeman that there was a hot box on a car near the middle of the train. This information was given to the engineman by the train radio, with the result that the head brakeman started back over the cars, with the understanding that as the train slowed down he was to drop off at the west switch of the next siding. The train was stopped with the defective car not far east of the switch, so that this car was set out and the train recoupled in less than 10 minutes. When the flagman returned to the caboose, the engineman was so informed by the radio, and the train departed at once.

In this territory the railroad passes over rolling grades, with hogbacks and sags, so that if the conductor had attempted to stop the train by applying the air brakes, the train might have been pulled in two. The employees on the train, including the division superintendent, who was on the locomotive, agreed that the train telephone saved at least 45 minutes, and perhaps more, in setting out this car with the hot box.

In contrast, on the following day, when in the vicinity of Ashland, Neb., a freight train without head-end to rear-end communication had a hot box and, being unable to attract the engineman's attention by hand signals, the conductor "pulled" the air, with the result that the train parted. From that cause, the train which broke in two and the westbound train with the radio, as well as a third train, were delayed two hours.

In any instance when a flagman was sent out to protect the rear of his train, it was shown that the train telephone saved much time and uncertainty in getting the train under way again. By conversation over the telephone, the engineman and conductor would agree when the train was ready to proceed. Then the flagman was called in, and as he approached the caboose, the conductor telephoned a "high ball" to the engineman. This saved several minutes, because without the telephone, the en-

gineman has no means for knowing when the flagman boards the caboose, and, therefore, postpones starting for an indefinite period, hoping that the flagman has returned to the caboose. Similarly when the train is departing from a passing track with hand-throw switches, the engineman lets his train drag along for a considerable distance because he has no means of knowing exactly where the rear end is with reference to the switch. Thus, either when waiting for a flagman or for a trainman at a switch, the train communication saves several minutes, depending on local conditions.

In the control of the Diesel-electric locomotive, when changing from series to parallel connections of the electric motors, there is a momentary loss of tractive effort, and unless the engineman manipulates the controls properly, there may be a surge of slack throughout the length of the train

The controls are so arranged that the motors can be used as generators, thereby effecting dynamic braking, but practice is required to bring this dynamic braking into effect gradually so that there is little or no surge through the train. Without train communication, the engineman has no means of knowing immediately when the controls are being handled properly to avoid surges, but with the train communication in service, and with an impact recorder at the rear, the road foreman in the locomotive and the test supervisor at the rear can discuss the best procedure in manipulating the controls. The results in this respect can be included in permanent instructions concerning the operation of the locomotives.

The only place on the entire test where the radio communication faded out was in a deep cut bordered by high trees, just west of Burlington, Ia. Early types of commercial radio receiving sets would not operate in homes in this vicinity, and further tests are to be made to determine the changes which may be required in the train radio system. In one spot near Galesburg, Ill., there was a slight "flutter" of the conversation, which was overcome by speaking slowly. (Flutter is a term applied to a condition which may be caused by reflection of the radio beams from certain objects or ground surfaces, such that some waves are received slightly after others.) Having gathered much data, the communication engineers of the Burlington, in co-operation with representatives of the Bendix Aviation Corporation, are planning to make further tests and adjustments to overcome the two cases of imperfect radio operation mentioned above, and also to gather further evidence of the time-saving value of train communication.



Every Road in Camp T. A. Scott, Fort Wayne, Ind., Is Named for a Railroad, as Is Indicated by Signposts Above Photographed by Sgt. Fred A. Looney, 717th Ry. Op. Bn.

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Gurley Succeeds Engel as President of Santa Fe



Edward J. Engel

RED G. GURLEY, executive vice-president of the Atchison, Topeka & Santa Fe, was elected president and chairman of the executive committee of that railroad at a meeting of the board of directors on July 27, to succeed Edward J. Engel, who retires on August 1, but who continues as a member of the executive committee and the board. Mr. Engel completes 43 years of service with the Santa Fe, in the last five of which he has been president.

Mr. Gurley is now entering upon the thirty-ninth year of his railroad career. He brings to his new position perating experience gained during 33 years' service with he Chicago, Burlington & Quincy, supplemented by ive years of executive experience on the Santa Fe during he period of its most intensive activity. He will head a railroad which, under the guidance of conservative but progressive management, long since developed into one of the largest and strongest of the nation.

The Santa Fe enjoys an enviable financial position, with bonds outstanding in conservative amount in relation to property value, traffic and earnings. During recent years special emphasis has been placed on a com-prehensive program of track and roadway improvements to permit higher speeds for freight and passenger traffic—a program made necessary by activity in the acquisition of modern equipment. At the present time, it operates 17 lightweight streamlined passenger trainsthe largest fleet of its kind in the world-48 road freight Diesel-electric locomotives and 102 Diesel-electric switch-



Fred G. Gurley

Brings thirty-eight years' operating and executive experience to one of nation's most important railroads

ing locomotives, in addition to a large number of modern steam locomotives. Mr. Gurley has had an important part in this development. On July 17, 1944, the Santa Fe had on order 18 steam locomotives, 20 Diesel freight locomotives, 5 Diesel switching locomotives, 1,300 freight train cars and 27 lightweight passenger train cars.

Because of its financial strength the company was able in December, 1941, to retire \$28,000,000 debentures that were not due until 1948, and thereby reduce its fixed charges about \$1,250,000 annually, while in 1942 it reduced its funded debt \$13,156,000. In 1943 it called the entire issue of California-Arizona Lines first and refunding bonds, of which \$28,264,399 were outstanding, and paid installments of equipment trust certificates aggregating \$5,100,000.

Despite a decline in operating revenues from \$265,-000,000 in 1929 to only \$120,000,000 in 1933, fixed charges were covered with a balance in all years by net operating income alone, due in large measure to a conservative funded debt and low fixed charges. Fixed charges in 1941 were 4.9 per cent of operating revenues, compared with more than 11.6 per cent for Class I rail-

roads as a group.

Throughout the war, the Santa Fe has played a major role in the eastbound movement of raw materials as well as in the transportation of men and materials to Pacific Coast ports of embarkation for theaters of war. Revenue ton-miles established a record in 1943, aggregating 31,-952,423,000 compared with 16,579,277,969 in 1929, while passengers carried one mile in 1943, including military movements, totaled 5,827,179,000 compared with 1,240,-494,049 in 1929. Revenue ton-miles in 1943 were about

(Continued on page 196)

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Norfolk & Western Installs C. T. C. on Shenandoah Valley Line

Project on 107.8 miles of single track and 10.5 miles of double track reduces delays on busy line handling 45 to 55 train movements daily

THE Norfolk & Western has completed an improvement program on its Shenandoah Valley district, including the construction of 10.56 miles of second track and the installation of centralized traffic control on this new double track as well as on 107.8 miles of single track, to reduce train delays and increase the operating capacity of the line approximately 30 per cent. The Shenandoah Valley line extends 238 miles in a generally north-and-south direction between Roanoke, Va., and Hagerstown, Md. At Roanoke, connection is made with the main line of the Norfolk & Western as well as with a branch line to Winston-Salem, N. C. Connections are made with the Pennsylvania and the Western Maryland at Hagerstown, with the Baltimore & Ohio at Shenandoah Ict., and with the Chesapeake & Ohio at Waynesboro, Va.

Prior to the war, this Shenandoah district handled two passenger trains and three through freight trains each way daily, in addition to local freight trains. In February, 1939, the last pre-war February, this district handled 91,213,000 gross ton-miles. At that time, the freight traffic was mostly agricultural and manufactured products, with no coal except for local delivery. By February, 1942, the traffic had increased to 180,452,000 gross ton-miles, nearly double that for February, 1939. Then came the war and the curtailment of steamship movements along the Atlantic coast, which necessitated that much of the coal be handled by rail, which had heretofore moved by coastwise vessels north from Norfolk, Va. As a

result, the traffic on the Shenandoah district increased to 558,557,000 gross ton-miles in February, 1943, more than six times the pre-war figure.

This traffic included 22,591 loaded cars and 1,139 empty cars moving out of Roanoke northbound, 16,201 of the loaded cars being coal, and 5,472 loaded cars and 13,736 empty cars southbound into Roanoke. The peak day was February 23, 1943, when 1,223 loaded and 62 empty cars were moved north from Roanoke, and 276 loaded and 715 empty cars arrived at Roanoke from the north. During the last few months traffic has decreased slightly, a total of 42,117 cars (counting both out of and into Roanoke) being handled over the Shenandoah district in February, 1944, as compared with 42,938 in February, 1943. The traffic in February, 1941, included an average of 14.4 trains daily as compared with an average of 33.3 trains in February, 1944. These figures include four passenger trains daily and a local freight train each way daily except Sunday, as well as return movements of light helper engines.

Prior to the recent improvements, train movements were authorized by timetable and train orders, with automatic block signal protection. As the traffic increased during 1942, delays to trains became excessive. The dispatchers could not issue orders fast enough, and as a result, in many instances, trains waited in the yard or stopped at stations on the line, waiting for orders. Inferior trains were required to clear the main line at least



Control Machine for the Roanoke to Stuarts Draft Section Is Arranged in a "U" Shape

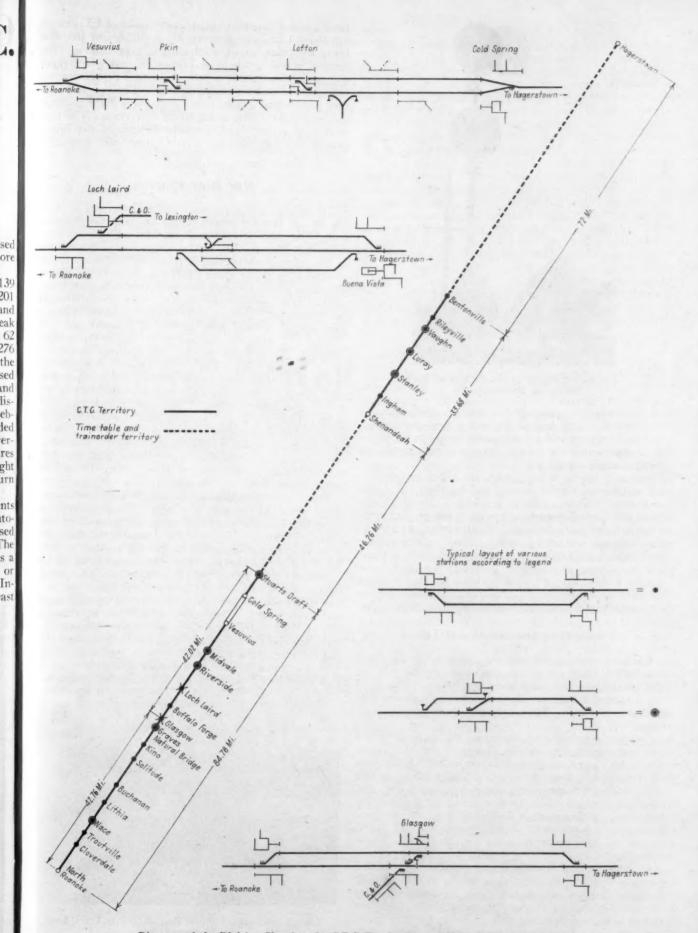
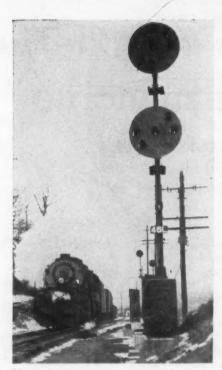


Diagram of the Division Showing the C.T.C. Territories and Typical Track Layouts



Southward Signal at North End of the Siding at Buchanan, Va.

five minutes prior to the schedule time of superior trains, and if some trains did not make the time anticipated, other trains would be delayed because there was no means for changing train orders soon enough to take advantage

of the changed conditions.

Especially on the heavy grades, the trains lost a great deal of time entering or leaving passing tracks at which hand-throw switches were in service. Therefore, a decision was reached to construct second track on 10.5 miles of the heaviest grade between Vesuvius and Cold Spring, and to install centralized traffic control on this double track as well as on 107.8 miles of the single track in those sections where grades and curvature reduced train speeds. One section of C. T. C. extends 85 miles between North Roanoke and Stuarts Draft, and the second section extends 34 miles between Shenandoah and Bentonville.

Physical Characteristics of Line

The track consists of 130-lb. rail, good ties and crushed rock ballast, all of which is maintained in good condition. The maximum permissible speed for freight trains is 45 m.p.h., and the limit on either ascending or descending grades is 30 m.p.h. The maximum speed for passenger

trains is 65 m.p.h.

Between Roanoke and Buchanan the railroad passes over the divide between the Roanoke and the James rivers, with a ruling grade southbound of 1.5 per cent for 3.5 miles between mile posts 221 and 225. On this grade there are three 4-deg., one 5-deg., one 6-deg., and two 7-deg. curves. The tonnage rating for a Class Y-6 locomotive up this grade is 2,650 tons, but, since the majority of the southbound traffic consists of empty cars, the train length, rather than the tonnage, usually determines the limit.

Between Buchanan and Glasgow, 19.2 miles, the line parallels the James river and is mostly at river grade. Between Glasgow and Buena Vista, the line follows up the valley of the North river at water grade. Between Buena Vista and Stuarts Draft, 32 miles, the line passes over the divide between the James and the Shenandoah

rivers, with a maximum grade northbound of 1.5 per cent for about 1.25 miles between M. P. 162.6 and 164, this being the ruling grade northward to Hagerstown. The summit of this grade is at Lofton, beyond which point the grade descends at a rate of about 1.5 per cent for nearly three miles to Cold Spring. The curvature on this southbound grade, however, is very light, so that this is not the ruling grade in this direction. The new section of second track extends throughout the heavy grades territory between Cold Spring and Vesuvius, 10.5 miles.

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Operating Practice

The Class Y-6 compound mallet locomotives, with 152,206 lb. tractive power simple and 126,838 lb. compound, are rated at 3,000 tons northbound between Roanoke and Shenandoah, this tonnage being determined by the ruling grade previously mentioned. The operating practice is to handle about 6,000 tons, from 70 to 75 cars of coal, or about 100 cars of mixed freight, in each train, with a Class Y-6 helper locomotive at the rear, just ahead of the caboose. The helper locomotive is included in the train when it is made up in the yard at Roanoke and runs through to Lofton, 76.6 miles. After passing the summit at Lofton, the train is stopped with the rear just north of the wye switches. The helper locomotive is cut off and turned on the wye, while the caboose is allowed to drift down the grade and is coupled to the rear of the The helper locomotive then returns light to Roa-Thus for every tonnage train northward, there is an extra light-engine movement southward between Lofton and Roanoke, which was an additional consideration prompting centralized traffic control all the way between Roanoke and Stuarts Draft, which is the first siding layout north of Cold Spring.

This C. T. C. includes power switches and semi-automatic signals at the ends of double track at North Roanoke, Vesuvius and Cold Spring, as well as at 14 passing tracks. Within the limits of the double track, there is a power-operated crossover at Lofton and another at Pkin. Signaling is provided for train movements in either direction on both tracks of this section of double track. Branch line trains of the Chesapeake & Ohio, one each way daily, use the Norfolk & Western between Glasgow and Loch Laird. The junction switches at Glasgow and at Loch Laird, as well as a crossover between the main line and the siding at Glasgow, are power-operated

and included in the C. T. C.

In the track layouts at the ends of double track at Vesuvius and Cold Spring, 30-ft. switch points and



Equilateral Turnout at the End of Double Track Near Cold Spring, Va.

No. 20 frogs are installed, with the angle divided to make equilateral turnouts. Therefore, trains move from the single track to either track of the double track or viceversa at normal speed. At these locations the freight train speeds are limited by the grades, but passenger trains are authorized to operate through these turnouts at normal speeds up to 65 m.p.h.

Between Stuarts Draft and Shenandoah the line is located in the valley of the Shenandoah river, with the grades as well as the curvature comparatively light. In this section, train movements are authorized by timetable and train orders, with automatic signal protection, the

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same as previously.

Shenandoah, 135 miles north of Roanoke, is the subdivision point at which engine and freight train crews are changed. On the 105.7-mile sub-district between Shenandoah and Hagerstown, the ruling grade northbound is 1.5 per cent for about 0.9 mile between M. P. 99.7 and 100.6. This grade includes one 5-deg. curve and one 8-deg. curve. The ruling grade southward varies from 1.6 to 2.0 per cent for about 0.9 mile between M. P. 81.5 and 82.4. Class Y-6 locomotives are rated to handle 2,750 tons northbound and 3,000 tons southbound over these ruling grades between Shenandoah and Hagerstown. For trains handling more than the rated tonnage. helper locomotives are provided northbound between Ingham and M. P. 98. Because of the grades and extra helper locomotive movements, centralized traffic control was installed on the 34 miles of single track between the north yard switch at Shenandoah and the north passing track switch at Bentonville. These new facilities include semi-automatic signals and power switch machines at the north yard switch of Shenandoah and at the passing track switches at Ingham, Stanley, Luray, Vaughn, Rileyville and Bentonville.

C. T. C. Control Machines

The dispatchers' offices for the entire Shenandoah district are located in Roanoke. One dispatcher operates the C. T. C. machine for the North Roanoke-Stuarts Draft territory and handles the Stuarts Draft-Shenandoah section by train orders. A second dispatcher, in a different room, operates the C. T. C. machine for the Shenan-doah-Bentonville section and handles the Bentonville-

Hagerstown section by train orders.

The Shenandoah-Bentonville control machine consists of a panel 60 in. long while the Roanoke-Stuarts Draft control machine is made up of five panels arranged in a horseshoe shape, with a total length of panel of 15 ft. A special feature of the illuminated track diagrams is the provision on these machines of a track-occupancy lamp to repeat each intermediate automatic block, this practice making it necessary to use longer sections of diagram to represent the portions of single track between towns. The result is that the levers are spaced farther apart in some instances than has previously been the practice with this type of panel. Also, the diagram includes lamps to repeat the occupancy of each passing track, as well as each OS switch detector section and section of main line opposite each passing track.

Each of the two C. T. C. control machines is equipped with a graphic train chart. Each morning, this chart is torn off on the line representing midnight, and this graph serves as the official record of train movements in the same manner as the ordinary train sheet for the sections where timetable and train orders are in effect. The panel also includes lamps which display indications when rockslide detector fences are operated, when a-c. power is cut off certain sections of the line, or when the air pressure

at an electro-pneumatic switch is below a specified mini-

Prior to the recent C. T. C. program, the Shenandoah strict had been equipped for many years with straight c. automatic block signaling, using positionlight signals, and the system included continuously-controlled three-aspect cab signaling. When changing over to C. T. C., some of the intermediate signals were relocated and the controls were revised, this being made possible by the fact that C. T. C. obviated the necessity for opposing intermediates to provide head-on protection.

The automatic signals at the ends of passing tracks were previously located properly for centralized traffic control, and, therefore, did not have to be moved, except at those locations where the passing tracks were lengthened. An accompanying photograph shows the stationentering signal at the north end of Buchanan. When installing C. T. C., the lower unit was added on this signal to permit the aspect of a horizontal row of lights over a diagonal row to be displayed, with the power switch reversed, to direct a train to enter the passing track. This aspect is track-circuit-controlled on the passing track, so that, if the passing track is occupied, an aspect cannot be displayed for a second train to enter.

Benefits of the Improvements

The benefits of the new improvements, including the new section of second track and the centralized traffic control, can be measured by the average reduction in train time on the road. The average time for through freight trains from the yard-board at North Roanoke to the yard-board at Shenandoah in February, 1943, was 7 hr. 18 min.; this was reduced in February, 1944, to 6 hr. 4 min., a decrease of 1 hr. 14 min. For southbound trains moving between Shenandoah and North Roanoke, the average train time was reduced from 7 hr. 54 min., to 6 hr. 5 min., a saving of 1 hr. 49 min.

On the Hagerstown-Shenandoah district of 105.7 miles, on which C. T. C. was installed on only 33.7 miles between Hagerstown and Bentonville, the average reduction in running time for northbound trains was 33 minutes, while for southbound trains the reduction was from

6 hr. 4 min. to 5 hr. 4 min., or 1 hr.

Each of the power switches is operated by a Type A-20 dual control electro-pneumatic switch machine. When the selector lever is operated, the air supply to the switch machine is cut off, the valve control circuits are opened, and an indication code is sent to the dispatcher's office, which causes both of the indication lamps above the switch lever to be lighted. The compressed air for the operation of the switch machines is supplied by smallcapacity motor-driven compressor sets. Duplicate compressors, each rated at 3.5 cu. ft. per min., are located at each switch or crossover.

At various places, as shown on the diagram, house tracks or spurs leading to industries are connected to the main line with hand-throw switches. At each of these locations, the switch stand was replaced with a T-21 hand-throw switch-and-lock movement, including an electric lock which locks the operating lever in the normal position. These layouts include lock and point-detector rods which lock the switches in the normal position. In each instance, a Hayes derail, located at the clearance point on the turnout, is pipe-connected to, and operated by the T-21 hand-throw switch and lock movement.

The two C. T. C. control machines are in adjacent rooms in the dispatchers' offices at Roanoke. The controls are sent out to the field stations, and the indications are returned by means of the Union Switch & Signal Company's multiple time code system, multiple application, using only two new line wires between Roanoke and Bentonville. This project includes three separate arrangements of time code sending and receiving equipment, each with a capacity to handle a maximum of 35 stations. A point of special interest is that the system as a whole requires only two line wires throughout the Roanoke-Bentonville territory.

The controls and indications for the 44-mile section between North Roanoke and Glasgow are effected by conventional d-c. codes on the two line wires, and similarly d-c. indication codes are transmitted on the same two line wires from the field stations in this section to the

office at Roanoke.

Independent Control for Three Sections

The controls for the switches and signals between Glasgow and Stuarts Draft, 42 miles, are coded 20 kilocycle frequency which is transmitted over the same two line wires mentioned above and is received by carrier apparatus at Glasgow, and converted to conventional d-c. codes to be transmitted to the local field stations between Glasgow and Stuarts Draft. From these field stations, d-c. indication codes are transmitted to Glasgow where they are converted to 14 kilocycle carrier current for transmission to Roanoke,

The controls of switches and signals on the Shenan-doah-Bentonville section are sent out from the Roanoke office as coded 18 kilocycle frequency to Stuarts Draft where they are converted to conventional d-c. codes for transmission to the various field stations in the Shenan-doah-Bentonville section. Similarly d-c. indication codes from stations on the Shenandoah-Bentonville section are transmitted to Stuarts Draft, where carrier current apparatus converts these codes to coded carrier of 12 kilo-

cycles for transmission to Roanoke.

At the office and at field stations, filters are provided to prevent interference between the d-c. codes and the high frequency codes, and, of course, there is no interference between the codes at the different high frequencies.

For this reason, the controls of the three different sections are independent and the line circuit can be used simultaneously for any two or all three of the sections. The advantages of this utilization of the carrier current equipment may be demonstrated in various ways. On a busy railroad such as this, if more than about 50 miles, including about 30 field stations, are controlled as a unit, so many control and indication codes will be required that there may be too much time delay for incoming indication codes. When meets and passes are being made on close timing, a few seconds may avoid stopping a train.

If the carrier current system had not been available, and if controls had been separated for the three sections, several choices would have been available. Three control machines could have been installed; as for example, one at Roanoke, another at Glasgow and a third at Shenandoah. Or, with the machines as they are in Roanoke, with separate line circuits, two additional wires would have been required from Stuarts Draft to Roanoke, 86 miles, and two additional wires from Glasgow to Roanoke, 44 miles. Roughly the use of the carrier system saved about 260 miles of copper wire, or about 108,-940 lb.

This signaling project was planned and installed by the signal forces of the Norfolk & Western, under the direction of J. A. Beoddy, superintendent telegraph and signals. The major items of equipment were furnished by the Union Switch & Signal Company.

Gurley Succeeds Engel

(Continued from page 191)

2½ times, and revenue passenger-miles about 3½ times those of 1918, the last year of World War I.

The Santa Fe's motor carrier operations likewise have exceeded in magnitude those of previous years. In 1943 buses of the Santa Fe Trail Transportation Company and the Santa Fe Transportation companies of California and Delaware operated 31,000,000 miles over 11,800 route-miles, carrying 9,459,086 passengers a total of 776,964,624 passenger-miles, compared with 6,730,557 passengers and 589,046,367 passenger-miles in 1942. Trucks

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Can 1943

tries

operated 9,000,000 truck-miles over 7,130 route-miles, producing 50,400,938 ton-miles in 1943.

Mr. Gurley was born at Sedalia, Mo., on February 20, 1889, and attended an engineering school for one year following graduation from high school. He entered railway service as a clerk in the superintendent's office of the Burlington at Sheridan, Wyo., in July, 1906. In 1915 he was promoted to trainmaster, and served in this capacity at various points for about four years, after which he was assigned to special work on the staff of the vice-president and general manager. In 1920 he was advanced to division superintendent, and after five years in this position he was promoted to general superintendent. On May 1, 1932, he was appointed assistant to the operating vice-president, his title being changed to assistant to the executive vice-president on April 1, 1935. He was appointed assistant vice-president (operation) of the Burlington on May 1, 1936, and held that position until May, 1939, when he was elected vice-president of the Santa Fe. He was chairman of the National Conference Committee of Managers which handled to a settlement the important wage controversies in 1941.

Mr. Engel is one of the few remaining associates of the late E. P. Ripley, who played such an important part in the development of the Santa Fe. He entered Santa Fe service as a stenographer in the purchasing department on March 23, 1899, was transferred to Mr. Ripley's office in November, 1900, and thereafter had the advantage of working closely for many years with one of the greatest railway executives the country ever had. Mr. Engel was born in Havana, Ohio, on July 28, 1874, and was educated in the public schools and in a business college at Sandusky, Ohio. After serving five years as a stenographer on the Santa Fe, he was promoted to chief clerk in the president's office in May, 1903, and to assistant to the president in September, 1910. He was advanced to vice-president in July, 1918, and to executive vice-president in May, 1935. He was elected president

on March 21, 1939.

Public Relations vs. Publicity

A clear distinction must be drawn between a comprehensive public relations program and publicity. The distinction is similar to that between medicine and surgery. Public relations corresponds to medicine and publicity to surgery. The aim of medicine is to keep the human being in good health. Surgery is one means to that end, but one that should be used only where it is very clearly indicated. Indiscriminate surgery can do far more harm than good, and could prove fatal. Indiscriminate publicity is just as bad. The aim of public relations is to win public respect and good will for the institution. Publicity is one, and only one, way to secure such good will.

-President Bernard Lichtenberg of the Institute of Public Relations

Tie Renewals Down 6.5 Per Cent

Data reported by A. R. E. A. show decrease in 1943 compared with previous year, caused by decreased production combined with acute shortage of labor

REFLECTING the difficulties encountered in the procurement of crossties for maintenance, as well as the extreme shortage of labor for maintenance-of-way work, 81 Class I roads in the United States and Canada inserted fewer ties per mile of maintained track in 1943 than in 1942, while 52 roads in these two countries inserted more ties, and 2 roads inserted the same

number as in 1942. Of these 135 roads, 132 are in the United States and 3 are in Canada.

Roads in the United States inserted a total of 45,-159,177 new wooden crossties, 280,245 second-hand ties and 90 substitute ties, a grand total of 45,439,512 ties in replacement in 1943. This compares with 48,168,240 new wooden ties and 447,988 second-hand ties, or a total of

Statistics of Crosstie Renewals on Leading Railroads in the United States and Canada for the Calendar Year Ending December 31, 1943

	Miles of maintained track	Total number of new wooden crossties	cre rer pem	aber of soden oestie newals mile of ntained	of v cr ren to i	r cent vooden osstie ewals all ties racks	untrea	ted (U)	treate	oden ties	total crossties	per mile of	new wooden crosstie renewals per thousand equated gross
Road .	occupied by crossties	laid in replacement in 1943	1943	5 year average	1943	5 year average	Per cent applied	Aver- age cost††	Per cent applied	Aver-	in all maintained tracks	main- tained track	miles (cents)
New England Region: Bang. & Aroos. B. & M C. N. R. (Lines in N.E.) C. P. R. (Lines in Me.) C. P. R. (Lines in Vt.)	2,968.82 248.62 227.00 124.74	93,503 194,567 19,783 16,160 9,288	114 66 80 71 74	155 92 145 58 76	4.0 2.2 2.6 2.4 2.5	3.4 3.1 4.7 1.9 2.5	100 0.2 15.1 0.3 14.9	\$0.74 1.02 0.84 0.90 0.92	99.8 84.9 99.7 85.1	\$2.00 1.39 1.28 1.35	2,358,078 8,758,000 767,252 667,120 375,137	131 104 91 96	4.05 1.94 3.59 0.75 1.84
C. Vt	25.90 3,821.29 487.41	14,383 145,837 4,000 256,397 22,050 775,968	29 119 154 67 45 74	68 151 283 66 46 92	1.0 3.9 4.9 2.1 1.5 2.4	2.4 5.0 9.0 2.1 1.5 3.0	0.3 35.3	0.90	99.7 64.7 100 100 100 80.7	1.53 2.08 2.78 2.17 1.40 2.01	1,464,000 3,728,700 81,641 11,999,758 1,514,600 31,714,286	208 430 146 63	0.71 5.89 2.34 1.74 1.88 2.06
Great Lakes Region: Ann Arbor. Camb. & Ind. D. & H. D. L. & W. Det. & Mack. D. & T. Shore Line. Erie (Incl. C. & E.) G. T. W. L. & H. R. L. & N. E. L. V. Monongahela Montour N. Y. C. N. Y. C. & St. L. N. Y. O. & W. N. Y. S. & W. P. M. P. & L. E. P. & S. P. & W. R. S. & N. Wabash Total	1,394.64 2,239.45 278.04 151.30 4,735.30 1,898.31 113.46 258.45 2,657.50 239.59 72.29	36,243 18,300 152,235 144,770 30,273 13,901 376,298 281,759 18,658 13,847 195,484 35,178 5,084 2,712,045 334,368 6,394 11,562 442,450 86,321 21,314 31,223 26,998 399,437 5,394,142	90 326 109 65 109 92 79 148 164 54 147 70 131 132 8 4 169 98 1171 123 126 118	91 309 134 67 107 118 84 163 97 59 61 170 89 116 130 4 4 4 63 170 99 199 239 142 143	3.0 11.9 3.5 2.2 3.7 3.0 2.6 4.7 6.1 1.8 2.5 5.0 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2	3.0 11.3 4.4 2.3 3.6 3.9 5.1 3.6 2.0 2.1 5.8 3.1 7.1 0.1 2.2 5.3 7.1 9.4 9.4 9.7 9.7 9.7 9.7 9.7 9.7 9.7 9.7 9.7 9.7	0.3 0.1 58.2 † 1.3 70 6.5 8.4 5.9 85.4	1.15 1.28 0.73 1.60 1.78 1.58 1.58	100 99, 7, 75, 8 41, 8 99, 3* 100 100 100 100 100 100 100 100 21, 9* 100 100 100 100 98, 7, 27, 8, 8 100 100 100 100 100 100 100 100 100 10	1. 72 2. 59 2. 19 2. 24 1. 13 2. 23 1. 99 1. 85 2. 78 2. 10 2. 26 2. 31 1. 99 2. 10 2. 26 2. 31 2. 07 2. 01 2. 29 1. 16 1. 61 2. 43 2. 62 2. 30 1. 61 2. 62 2. 62	1,221,180 153,500 4,289,725 6,494,655 829,222 456,011 14,422,744 6,007,961 781,669 7,887,77 698,637 208,209 33,868,980 7,965,279 2,356,677 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 625,335 7,918,577 7,918,577 8,778 8	9 842 9 239 9 143 98 9 205 158 275 458 113 166 337 129 129 129 1268 227 239 458 458 215 18 62 272 239 458 458 275 275 275 275 275 275 275 275	3.58 26.15 2.04 1.44 11.86 4.49 1.39 4.83 5.13 2.56 2.45 1.98 2.45 1.98 3.01 4.17 3.72 15.92 3.95 10.29 24.15 2.35
Central Eastern Region: A. C. & Y. B. & O. B. & L. E. C. of N. J. C. & E. I. C. & I. M. C. I. & L. D. T. & I. E. J. & B. Ill. Term. Long Island Mo-Ill. Penna. P-R. Seashore Lines Reading. S. I. Rap. Tran. W. M. W. & L. E. Total.	214.30 10,336.62 487.61 1,445.60 1,335.29 168.13 734.44 600.02 870.96 629.17 796.42 212.71 21,359.24 637.74 637.74 988.27 79.94 1,140.76 836.98 44,874.20	48,387 2,068,922 27,568 111,731 156,986 26,155 42,491 33,247 72,639 50,554 116,315 44,830 2,068,945 47,350 311,368 5,621 116,129 101,513 5,450,751	226 200 57 77 118 156 58 55 83 80 146 211 97 97 74 102 121 121	207 155 120 87 111 99 94 72 164 91 87 249 95 91 147 147 113	7.8 7.0 1.87 3.8 5.29 1.9 2.77 5.1 6.7 4.2 2.8 4.0 4.2	7. 1 5. 4 3. 9 3. 1 3. 7 3. 1 2. 5 5. 3 3. 1 3. 0 8. 0 8. 4 3. 4 7 2. 2 5. 9 4. 0	93.5 0.5 0.7 0.4 0.6 12.4 5. 0.6 1.1	1.75 1.40 0.52 1.47 0.42 0.66 1.06	4.5 100 99.5 99.3 100 99.6 100 99.4 94.8* 82.9* 100 100 100 100 100 100 100 98.5 98.5	2.80 2.14 2.61 2.27 2.65 1.31 1.45 1.40 2.44 1.59 2.186 2.27 2.01	616,606 29,486,538 1,516,653 4,063,306 4,140,601 506,393 2,283,036 1,728,038 2,685,868 1,887,510 2,270,837 666,030 60,959,819 1,728,919 1,728,919 1,728,919 2,27,333 217,437 3,284,795 2,519,120 128,788,859	428 147 175 208 410 76 80 153	9.58 3.91 1.71 2.30 5.00 1.56 2.40 3.05 5.06 5.89 17.21 1.40 5.75 2.72 7.48 2.72 2.94 2.28
Pocahontas Region: C. & O. N. & W. R. F. & P. Va. Total	5,021.54 4,264.39 392.82 900.60 10,579.35	. 479,677 294,045 115,474 90,924 980,120	96 69 294 101 93	86 47 342 125 83	3.1 2.2 10.3 3.3 3.0	2.8 1.5 12.0 4.0 2.7	†	0.98	100 97.2* 97.8* 96.6* 98.5*	1.62 1.63 2.00 1.64 1.67	15,451,221 13,219,609 1,121,370 2,770,148 32,562,348	155 112 588 166 155	1.10 0.90 2.66 1.68 1.15

Statistics of Crosstie Renewals in Leading Railroads in the United States and Canada for the Calendar Year Ending December 31, 1943 (Continued)

	Miles of maintained track occupied	Total number of new wooden crossties laid in	ren per i	aber of oden ostie ewals nile of tained ack	of w	cent vooden pastie ewals ill ties racks	new woo		New woo	den ties	Estimated total crossites in all	Cost of new wood- en cross- tie renewals per mile of main-	new wooden crosstie renewals per
Road	by crossties	replacement in 1943	1943	5 year average	1943	average	cent applied	age cost††	cent applied	age cost††	maintained tracks	tained track	miles (cents)
Southern Region: A. & G. S. A. & W. P. A. B. & C. A. C. L. C. of G. C. & W. C. C. N. O. & T. P. Clinchfield. Col. & Green. F. E. C. Georgia G. & F. G. S. & F. G. S. & F. G. M. & O. I. C. L. & N. Miss. Cent. N. C. & St. L. N. O. & N. E. Nor. Sou. S. A. L. Southern. Tenn. Cent. W. Ry. of Ala. Y. & M. V. Total.	3053.78 7,495.34 6,702.55 175.80 1,451.97 287.97 841.32 5,262.13 8,613.91 342.46 183.32 2,020.56	53,524 28,301 1,170,226 330,976 78,519 33,939 68,067 36,520 192,367 117,147 129,900 65,522 74,750 568,838 1,346,905 1,269,491 28,049 334,543 42,452 269,640 1,005,434 1,362,020 72,803 44,383 560,956 9,398,842	97 202 144 1767 184 47 179 179 1270 285 141 247 277 180 189 160 230 1158 213 242 242 248 186	93 205 148 138 157 150 60 214 167 213 240 125 231 314 185 231 334 334 186 181 186 181 186	3.2 6.5 6.0 6.4 1.4 7.5 5.7 3.8 8.0 8.0 8.7 8.9 6.6 1.8 4.4 8.0 7.9 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9	3.0 6.7 5.1 4.7 5.3 5.2 1.9 7.0 5.3 6.1 6.9 4.0 5.1 8.9 9.9 4.0 5.1 8.9 9.9 1.6 1.6 1.6 1.6 1.6 1.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7	9.2 67 19 3.4 1.9 89.2 26.5 88.4 100 100 13.2 0.3 0.2 0.4 4.8 91.1 14.8 95.7 0.9	1. 69 1. 63 1. 54 1. 27 1. 74 1. 48 1. 09 0. 99 1. 28 1. 37 1. 47 1. 28 1. 41 1. 103 0. 96 1. 12 1. 12 1. 12 1. 12 1. 12 1. 12 1. 14 1. 14 1. 15 1. 16 1. 16	90, 8 33 81 96, 6 98, 1 10, 8 80, 5 74 11, 6 200 86, 6* 99, 8 99, 8 100 99, 8 99, 6 100 95, 2 85, 5 80,	2. 18 2. 15 1. 79 1. 46 1. 78 1. 89 2. 13 2. 07 2. 13 2. 07 1. 55 1. 86 1. 62 2. 11 1. 89 1. 89 1. 62 1. 15 1. 89 1. 16 1. 18 1. 18	1,685,310 432,723 2,284,473 19,461,579 6,683,317 1,235,517 2,363,160 1,202,329 45,599,849 1,332,600 1,231,686 1,460,674 6,506,371 6,506,371 1,2,850,499 19,181,657 5,51,28 877,770 2,541,887 15,927,260 26,845,282 1,036,969 558,769 558,769	207 363 249 330 214 278 85 293 318 293 392 253 207 383 499 293 306 247 382 304 344 403 318	1.44 3.75 7.33 4.83 9.18 0.52 2.81 4.33 17.43 4.39 14.68 8.23 3.01 12.73 4.82 1.92 15.25 4.46 4.07 77 4.82 4.92 4.92 10.77 4.82 4.92 4.94 4.94 4.94 4.94 4.94 4.94 4.9
Northwestern Region: C. & N. W. C. G. W C. M. St. P. & P. C. St. P. M. & O. D. M. & I. R. D. S. S. & A. D. W. & P. G. N. G. B. & W. L. S. & I. M. & St. L. M. St. P. & S. S. M. N. P. Spokane Int. S. P. & S. Total	2,136.53 1,090x26 514.00 207.80 10,219.68	1,004,552 225,585 1,973,120 245,162 137,929 74,496 74,035 1,596,721 60,262 18,041 183,145 422,769 1,089,807 68,696 247,661 7,421,981	89 120 145 114 127 145 356 156 212 77 117 86 119 387 225 127	124 148 167 161 111 181 325 147 317 153 200 124 135 357 232 148	3.0 4.0 4.7 3.8 4.2 5.1 12.1 7.4 2.6 3.9 2.9 2.9 13.3 7.4 4.2	4.2 5.4 5.4 3.7 11.0 4.7 11.0 5.1 6.2 4.6 12.9	3.4 79.7 20.6 4.18.7 61.4 34.7 0.9 39.3 60.7 69.6 25.3 2.9 99.7 16.2 15.4	0.84 1.44 0.87 0.84 1.14 0.78 1.10 0.87 1.10 0.80 0.90 0.95 0.90	96.6 20.3 79.4 96 81.3 38.6 65.3 95.3* 60.7 39.3 3.04 74.7 97.1 0.3 83.8	1.37 2.05 1.73 1.68 1.93 1.41 1.68 1.79 2.15 1.97 1.76 1.59 1.59 1.59 1.67	33,464,008 5,570,714 41,913,256 6,393,486 6,394,890 1,461,792 60,916 31,535,421 816,768 707,400 4,725,659 14,446,75 22,6,579,860 515,159 175,335,960	121 188 226 187 225 157 520 279 368 100 152 120 178 370 348 197	2.73 3.07 4.43 4.83 3.18 6.87 12.34 4.76 11.81 5.97 3.77 3.21 17.41 5.56 4.01
Central Western Region: Alton. A. T. & S. F. C. B. & Q. C. R. I. & P. C. & S. C. & W. D. & R. G. W. D. & S. L. F. W. & D. C. Nev. Nor. Northwestern Pac. S. P. T. P. & W. U. P. Utah W. P. Total.	11,982.84 9,564.92 823.38 108.18 3,129.62 317.00 945.86 191.02 418.72 11,857.69 277.88 13,103.52 72.33 1,499.63	266,658 1,512,672 2,214,747 1,117,037 91,611 6,906 90,462 39,721 93,313 27,568 31,367,143 26,432 4,981 245,623 9,345,859	177 80 185 117 111 64 299 125 99 144 231 115 95 164 125	220 96 171 112 100 47 159 89 173 196 104 163 172 259 129	5.9 2.6 6.0 3.7 2.2 0.9 4.1 2.4 5.0 3.7 3.7 3.0 5.8 4.1	7 · 3 3 · 1 5 · 5 · 3 · 7 3 · 3 · 3 · 1 · 5 · 2 2 · 2 · 8 · 6 · 0 6 · 8 · 4 · 5 · 1 · 6 · 1 · 3 · 1 · 6 · 1 · 3 · 7 · 4 · 3	50.9 	1.30 	48.4* 100 99.4* 100 82.1* 98.8 57.9* 100 89.4* 57.9* 100 97.7 91.8* 22.9* 91.8*	1.89 1.20 1.72 2.81 1.68 2.05 1.65 1.56 1.76 1.37 2.57 1.89 1.42	4,544,472 57,687,481 37,003,010 28,596,233 2,470,140 311,548 9,757,302 966,453 2,850,507 548,220 1,215,342 36,779,659 880,324 36,779,659 880,324 4,474,833 205,108 4,474,833 225,308,250	281 102 278 140 190 178 49 257 163 384 175 135 223 168 238 177	3.95 1.26 4.71 2.26 3.59 60.53 0.68 9.87 3.52 38.99 13.95 1.34 2.02 3.44 2.02 3.44 2.7 2.11
Southwestern Region: B. S. L. & W. BR. I. LG. N. K. C. S. K. O. & G. L. & A. M. V. M. & A. MKT. M. P. N. O. T. & M. O. CAA. St. L. B. & M. StL.S. F. St. L. S. F. & T. St. L. S. F. St. L. S. G. T. & N. O. T. & P. Tex. Mex. Total. Grand Total—United States	871.99 359.66 358.46 3,973.40 8,931.06 224.73 140.06 6,251.97 153.45 1.861.71 360.07 5,573.38 2,388.55 203.29 203.29	28, 420 13,008 163,425 507,653 16,919 626,172 22,061 127,157 1,288,056 937,709 67,631 22,137 115,801 825,228 16,044 313,019 40,864 612,621 21,155 6,391,514 45,159,177	192 73 112 409 48 61 352 301 105 301 158 153 132 104 168 110 262 104 179 136	131 77 118 281 62 381 67 338 194 155 185 206 139 126 144 170 114 135 172 147 161	6.4 2.3 3.7 12.9 1.6 22.1 11.4 10.3 3.4 9.8 5.5 1.1 4.2 3.3 3.4 9.8 5.5 5.1 4.2 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0	4.4 2.4 3.9 8.9 2.1 11.8 3.0 6.0 2.7 4.6 4.5 5.0 4.5 5.0 9.5 4.7 5.9 4.7 5.5	0.1 1.7 71.6 0.2 2.8 16.7 7.5 15.1	0.93 0.31 0.74 0.85 1.31 0.96 0.53 1.08 1.05 	100 100 100 98.3 100 28.4 99.8 97.2 100 83.3 100 92.5 84.9 99.1 100 99.8	1.65 0.90 1.51 1.59 1.52 1.64 1.43 1.36 1.69 1.41 1.82 1.44 1.34 1.34 1.34 1.39 1.70	441,400 557,171 4,392,200 3,934,245 1,046,567 2,831,486 1,064,594 1,115,093 12,501,100 27,556,849 687,500 403,373 2,293,000 403,373 2,293,000 19,686,439 481,331 585,507 1,058,400 15,188,732 6,975,500 644,023 108,694,537	317 655 169 650 72 1,180 353 549 147 242 249 186 135 274 135 274 136 178 265 178 265 278 278 278 278 278 278 278 278 278 278	1.67 1.31 2.89 6.34 2.17 24.76 7.30 19.25 8.27 1.72 2.78 4.49 2.93 2.63 2.63 1.78 4.48 17.85 2.63 1.78 2.78
Canadian Roads: C. N. C. P. T. & N. O. C. N. (1942)b.	26,850.00 21,027.00 651.00 26,861.00	4,568,726 2,962,320 114,021 5,166,665	170 141 176	200 144 247	5.8 4.9 6.0	7.0 5.1 8.4	53.8 42.2 100 59.1	0.85 0.75 0.71	46.2 57.8 40.9	1.44	78,621,507 60,436,385 1,887,900 78,628,485	187 168 144 186	# 3:82 5.42

^{*} Owing to the fact that the total number of ties inserted on some roads included some second-hand ties, ties other than wood, tie blocks, etc., the percentage of treated and untreated ties do not total 100 per cent in all cases.

† Proportion is less than 0.1 per cent. # Not reported.

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48,616,228, in 1942, a decrease of 3,176,716 or 6.5 per cent. The three Canadian roads inserted 7,645,067 new wooden crossties in 1943, compared with 8,243,006 in 1942, a decrease of 597,939 ties or 7.2 per cent. These and other important comparisons can be drawn from the tabulation of statistics relating to the renewals compiled for the Committee on Ties of the American Railway Engineering Association by the Bureau of Railway Economics, from reports made to the Interstate Commerce Commission by the roads in the United States, and direct to the Bureau by the Canadian roads. These statistics, which were reported to the Association by the Tie committee, are reproduced here in condensed form.

In general, with the exceptions to be noted, the number of ties renewed per mile of maintained track did not vary widely from 1942. This is attested by the fact that the average for all of the Class I roads in the United States was only nine less than the average for 1942, and was the same as the five year average. Among the noteworthy changes were the Baltimore & Ohio, from 151 to 200; the Long Island, 93 to 146; the Texas & Pacific 211 to 262; the Boston & Maine, 106 to 66; the Delaware & Hudson, 157 to 109; the Pittsburgh & West Virginia, 252 to 171; the Richmond, Fredericksburg & Potomac, 402 to 294; the Chicago & North Western, 136 to 89; the Chicago, St. Paul, Minneapolis & Omaha, 173 to 114; the Denver & Salt Lake, 229 to 125; the Union Pacific, 196 to 164; and the Kansas City Southern, 476 to 409. In each comparison 1942 figures are given first.

Of equal interest are the comparisons by regions, these being as follows: the New England region, from 94 to 74; the Great Lakes region, 123 to 118; the Central Eastern region, 119 to 121; the Pocahontas region, 80 to 93; the Southern region, 186 compared with 186; the Northwestern region, 153 to 127; the Central Western region, 136 to 125; and the Southwestern region, 187 to 179. For the United States as a whole, the comparison is from 145 to 136. The five-year average for the several regions is New England, 92; Great Lakes, 113; Central Eastern, 113; Pocahontas, 83; Southern, 177; Northwestern, 148; Central Western, 129; the Southwestern, 161; and for the United States as a whole, 136.

Further analysis of the tie renewal statistics reveals that in 1943 treated ties were applied exclusively on 50 roads, compared with 48 roads in 1942 and that only four roads did not apply any treated ties, compared with five roads in 1942 and nine roads in 1941. On 51 other roads, more than 80 per cent of the ties that were applied last year were given preservative treatment; on eight roads the percentage of treated ties ranged from 60 to 80; on four roads, from 40 to 60 per cent of the ties were treated; on eight roads the treated ties inserted represented 20 to 40 per cent of the total number applied; and on eight others less than 20 per cent were treated.

Despite the fact that less ties were inserted in 1943 than in 1942, and despite a decrease of 2,000,126 in the number of treated ties inserted in 1943, treated ties increased relatively in the latter year, since they constituted 91 per cent of all the new ties applied, compared with 89.6 per cent in 1942 and 87.5 per cent in 1941. This represents an increase of 1.4 per cent in the ratio of treated to untreated ties, despite a decrease of 4.6 per cent in the total number of treated ties inserted.

Numerically, the decrease was from 43,563,203 treated ties inserted in 1942 to 41,363,077 inserted in 1943. There was an accompanying decrease of 17.6 per cent in the number of untreated ties applied in 1943, compared with 1942. Numerically, the decrease was from 4,605,037 untreated ties applied in 1942 to 3,796,100 applied in 1943, a difference of 808,937. There was also a decrease

in the number of second-hand and substitute ties applied in 1943. Compared with the previous year, the reduction was from 447,988 in 1942 to 280,335 in 1943, a difference of 167,653.

The tabulation also contains a column showing the five-year average renewals for each road and each region, which reveals that the roads having the lowest five-year average per mile of maintained track were the Norfolk & Western and the Denver & Rio Grande Western, both of which average 47; the Lehigh & New England, 59; the Lehigh Valley, 61; the Kansas, Oklahoma & Gulf, 62; the New York, Susquehanna & Western, 63; the New York, New Haven & Hartford, 66; the Delaware, Lackawanna & Western, 67; the Detroit, Toledo & Ironton, 72; the Reading, 74; the Erie, 84; the Chesapeake & Ohio, 86; the Central of New Jersey, 87; the New York Central, 89; the Boston & Maine, 92; the Pennsylvania, 95; and the Atchison, Topeka & Santa Fe, 96.

The five-year average of the Canadian National was 200; of the Canadian Pacific, 144; and of the Temiskaming & Northern Ontario, 247.

Two measures of tie-renewal policies are shown in the last two columns of the accompanying table. One of these gives the cost of tie renewals per mile of maintained tracks; and the final column gives the cost of wooden crossties per thousand equated gross-ton miles. In this connection, considerable caution should be exercised in comparing the cost of ties on one railway with that on another, because of the wide variations in conditions that exist at present in different sections of the country.

The data in this table cover a total of 331,246.98 miles of maintained tracks, compared with 332,201.82 in 1942, a decrease of 954.84 miles.



Liebty in the Chieseo Times

"I accuse the administration of wasteful ruinous spending—and, if re-elected, I shall see that this noble community gets its proper share of it, too!"

2-8-4 Type Freight Locomotives for the C. & O.

Alco delivers 40 units having 69-in. drivers, 460,000 lb. engine weight and a tractive force of 69,350 lb.

ITHIN the past few months the Chesapeake & Ohio has taken delivery of a total of 40 freight locomotives of the 2-8-4 type from the Schenectady, N. Y., plant of the American Locomotive Company. These locomotives have as their predecessors in design a total of 94 units built both by Alco and the Lima Locomotive Works for the New York, Chicago & St. Louis and the Pere Marquette. The first of this type on these roads were a group of 15 built by Alco for the Nickel Plate in 1934. All of the locomotives are of the same basic design and are an evolution in design of the Chesapeake & Ohio 2-10-4 Class T-1* locomotives built in 1930 by Lima. Many of the parts of the 2-8-4 type locomotives are interchangeable with the T-1's. The Nickel Plate locomotives, of which a total of 55 are in service, all have 64,100 lb. tractive force, practically identical boilers, carbon-steel rail type frames and plain bearings. The cylinders are 25 in. bore by 34 in. stroke. The Pere Marquette locomotives, of which there are 39 in service, have 26-in. by 34-in. cylinders, 69,350 lb. tractive force, and 245 lb. boiler pressure. The first 27 Pere Marquette units had rail type frames, while the last 12 had cast-steel beds. All 39 units have plain There were 10 of the Pere Marquette units equipped with trailer boosters. All 94 of the previously built locomotives had 22,000-gal. tender tanks with fuel capacity of 22 tons. Forty Nickel Plate and all Pere Marquette units were built by Lima Locomotive Works.

The Chesapeake & Ohio locomotives described in this article represent another step in the refinement of design and the application of modern specialties. These 40 loco-

* See Railway Age, November 15, 1930, page 1025.

Table I—General Dimensions and Weights of the Chesapeake & Ohio 2-8-4 Type Locomotives

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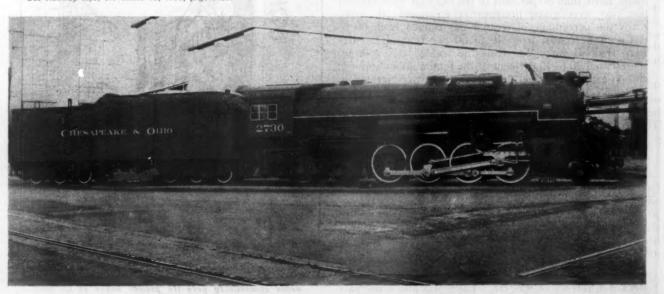
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Railwa

Chesapeane te onio a o 1 1, pe .	
Railroad	. Chesapeake & Ohio
Builder	American Locomotive Co.
Type of locomotive	2-8-4
Road class	
Road numbers	
Builder's Order No	
Date built	
Service	
Rated tractive force, engine, 85 per cent, lb	59,350
Rated tractive force, booster, lb	

On drivers	92,000
On front truck.	14,500
Total engine	60,000
Total engine	312,800
Wheel bases ft and in :	
Driving1	8-3
Engine total.	2-0
Driving wheels, diameter outside tires, in	
Cylinders, number, diameter and stroke, in2	
Valve gear, typel	Baker
Valves, piston type, size, in	
Maximum travel, in	and the second of
Boiler:	
	45
Steam pressure, lb	36
Firebox length, in	35%
Firebox width, in	20%
Arch tubes, number and diameter, in	1-31/2
Thermic syphons, number	The state of the s
Tubes, number and diameter, in	3, 2½ No. 12
Flues number and diameter in.	202, 31/9
Flues, thickness (B. W. G.). Length over tube sheets, ft. and in	No. 11
Length over tube sheets, ft. and in	Situminous cool
Stoker	Standard MB
Stoker	00.3
Heating surfaces, sq. ft.:	
Firebox and comb. chamber	40
Arch tubes	9
Syphons	62
Tubes and flues4	.308
Evaporative total4	,770
Superheating (Type E)	719
Feedwater heater	Worthington 51/2 SSA
Tender:	Dieser Street Billion
Style	Rectangular
Water capacity, U. S. Gal.	1,000

Style. Rectangular
Water capacity, U. S. Gal. 21,000
Fuel capacity, tons 30
Trucke Sixwheel.



motives have cast beds and roller bearings; 83,750 lb. tractive force, including the booster; 26-in. by 34-in. cylinders, and a total engine weight of 460,000 lb.

The boiler is the conical type consisting of three courses, the second course being tapered. The inside diameter of the first course is 86 in. and the outside diameter of the largest course is 98 in. The barrel and firebox plates are carbon steel. The boiler is designed for a working pressure of 245 lb. The total calculated evaporation is 66,260 lb. per hour, equivalent to a boiler horsepower of 3,186. The dimensions and characteristics of the boiler are shown in one of the tables.

The fireboxes of these boilers are 1351/16 in. long by 961/4 in. wide, and the grate area is 90.3 sq. ft. The combustion chamber is 42 in, long. The firebox and combustion chamber are of welded construction, except for the back flue sheet and furnace door-sheet connections. The latter are seal welded. The fireboxes have Firebar grates and fuel is fed to the grates by a Standard Type MB stoker. Flannery flexible staybolts are used in the back head, the breaking zones of the firebox, in the combustion chamber, and in the throat sheet. The firedoor is the Franklin No. 8. Two Nich-

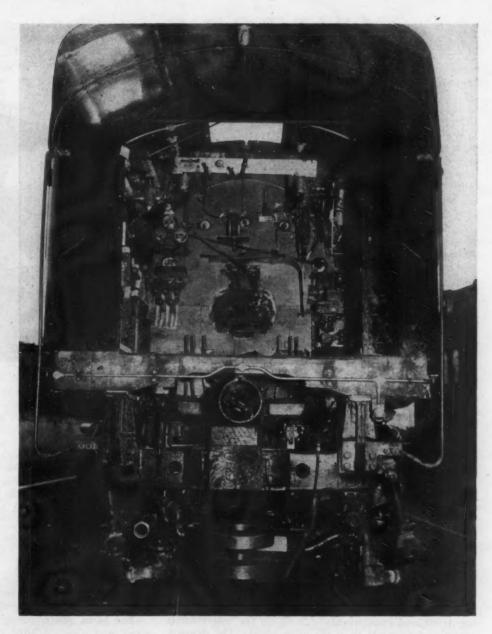
olson Thermic syphons located in the firebox, together with two $3\frac{1}{2}$ in. arch tubes support the Security brick arch. There are 73 fire tubes, $2\frac{1}{4}$ in. diameter, and 202 superheater flues, $3\frac{1}{2}$ in. diameter, in which is applied the Elesco Type E 103-unit superheater. An American multiple throttle is located in the superheater header.

The water is fed to the boiler by a Nathan type NL-4000, 9,000-gal. capacity injector located on the right side of the boiler and a Worthington 5½-SSA type feedwater heater having a nominal capacity of 10,000 gals. per hour. The boiler is equipped with three 3½-in. safety valves.

Foundation and Running Gear

The foundation of these locomotives consists of a General Steel Castings Corporation cast-steel bed, of which the back cylinder heads, air-pump brackets, injector brackets, front deck, cradle, guide and reverse-shaft support, cold-water pump support, and furnace bearers are an integral part. Ex-Cell-O bushings are applied in the bed for all spring- and brake-rigging pins.

The engine truck is the General Steel Castings Corporation two-wheel outside bearing type having a cast-



steel frame interchangeable with the C. & O. 2-10-4 Class K-1 locomotives. These trucks are designed for an initial resistance of 30 per cent and a constant resistance of 25 per cent with ½-in. lateral on each side The swing of the front truck is 7 in. on a 20-deg, curve. The trucks have medium-carbon axles mounted in Timken roller bearings and multiple wear rolled-steel wheels.

The trailing trucks are the General Steel Castings Corporation four-wheel Delta type similar to those supplied for the C. & O. Class L-2 locomotives. These trucks are designed with 1-in. lateral at the front and $\frac{3}{16}$ -in. on each side at the rear wheels. Both initial and constant resistance are 15 per cent. The Timken lateral-motion control device is applied to the front trailer-truck boxes and the Franklin C2S booster drives on the rear trailer-truck wheels. Both front and rear trailer-truck axles run in Timken roller bearings.

The driving-wheel centers are the spoke type, caststeel, on which are mounted 69-in. tires. Wheel centers are mounted on medium-carbon-steel hollow-bored axles operating in Timken bearings. The Alco lateral-cushioning device is used on the front drivers.

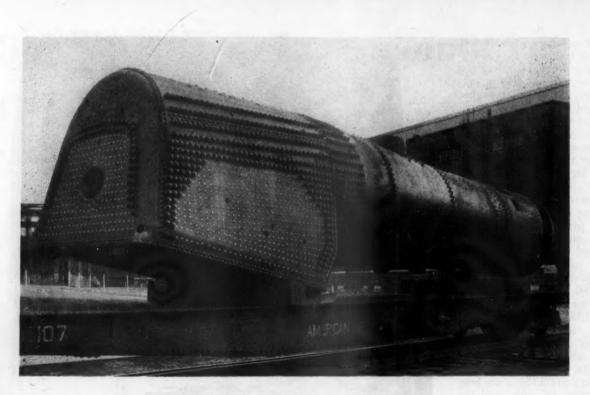


Table II-Axles, Bearings, Wheels and Tires

		Axles				heels or Tires	Wheel Centers			
Location Front truck	Material Medium carbon	Manufacturer Carnegie-Illinois	Bearings Timken	Journal size, in. 71/2	Type and material Multiple-wear rolled steel	Manufacturer Armco	Diam., in. 33	Туре М	Manufacturer	Diam., in.
Drivers, main	Medium carbon hollow bored	Carnegie-Illinois	Timken	13	Class B	Railway-Steel Spring Div., Alco	69	Cast steel	Alco	62
Drivers, other	Medium carbon hollow bored	Carnegie-Illinois	Timken	121/8	Class B	Railway Steel Spring Div., Alco	69	Cast steel	l Alco	62
Trailer, front	Medium carbon	Carnegie-Illinois	Timken	121/8	Multiple-wear rolled steel	Armco	36	***************************************		
Trailer, rear	Medium carbon	Carnegie-Illinois	Timken	121/6	Class B	Railway Steel Spring Div., Alco	43	Cast steel		36
Tender	Open hearth	Carnegie-Illinois	Plain	7x14	Multiple-wear rolled steel	Armeo	36		• • • •	

The total weight of the reciprocating parts on one side is 2,395 lb. The overbalance is distributed 210 lb. to the front and back wheels, 225 lb. to the intermediate wheel, and minus 41 lb. to the main wheel. The dynamic augment at 69 m. p. h. is 11,500 lb. front and back; 12,300 lb. at the intermediate, and minus 2,250 lb. at the main.

The cylinders are 26 in. bore by 34 in. stroke. Both cylinders and valve chambers are equipped with Hunt-Spiller gun-iron bushings as well as Hunt-Spiller valve bull rings and valve packing rings. The pistons are cast-steel centers with Hunt-Spiller bull rings and duplex packing rings. The piston rods are openhearth carbon steel, quenched and tempered, operating in King type packing.

The crossheads and guides are the multiple-bearing type with carbon-steel wrist pins and chrome-vanadium crosshead keys. The crossheads are lined with Satco metal. The main and side rods are of medium carbon steel, the main rod being of I-section and the side rods of rectangular section. The rods are the tandem type. Magnus bronze bushings are applied to the side rods and, where floating bushings are used, the bronze bushings operate in Hunt-Spiller gun-iron fixed bushings. The crank pins are medium-carbon steel, normalized and tempered, having journal diameters for the side rods of 6 in. at the front, intermediate, and back pins, and 934

in, at the main pin. The main pins are hollow bored with 8½-in, by 9-in, journals for the main rod.

The 14-in. piston valves are controlled by the Baker valve gear which, in turn, is actuated by a Franklin type F-2 reverse gear.

The chassis of these locomotives are equipped for complete mechanical and pressure-grease lubrication. Force-feed lubrication is supplied by a Nathan 12-feed, 36-pint lubricator located on the left side of the locomotive supplying oil to the pedestal faces, valve crosshead, engine-truck center-pin guide, radial buffer, and furnace bearers. Lubrication for steam-pipe, cylinders, guide, feedwater heater, filter, and air pump is supplied by a Detroit 15-feed, 32-pint lubricator located on the right side of the locomotive. Numerous parts on the running gear are equipped with Alemite fittings for grease lubrication.

These locomotives are equipped with the Pyle-National headlight and generating equipment having a Type MO-6 800-watt, 32-volt turbo generator designed for operation with 300 lb. pressure saturated steam. Ten of the locomotives are equipped with the Union Switch & Signal Company's intermediate inductive train stop designed for operation in forward direction only.

The foundation brake equipment, Schedule N-290-100, was supplied by the Westinghouse Air Brake Company and the New York Air Brake Company and is designed

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with a braking power equivalent to 50 per cent of the weight on drivers. The driver-brake rigging is designed for 100 lb, cylinder pressure. The operating brake equipment is No. 8ET with two 8½-in. cross-compound compressors. The locomotives are supplied with two 18½-in. by 108-in. and one 18½-in. by 72-in. main reservoirs. The cabs are of welded-steel construction having a

The cabs are of welded-steel construction having a length over the front and back walls of 95½ in. and a distance of 69 in. from the back corner of the firebox to the front wall of the cab. The windows in the front of the cab are the Prime clear-vision type. A single seat for the engineman is located on the right side of the cab and two seats for the fireman and the brakeman on the left side.

The Tender

The tenders are the rectangular tank type with two six-wheel trucks. The tanks have a water capacity of 21,000 gals, and the coal space has a capacity for 22 tons. The tender has a wheel base of 37 ft. 1 in, with a 10-ft, wheel base for each truck. The light weight of the tender is 158,300 lb.

The tender underframe is the General Steel Castings Corporation cast-steel water-bottom type with the riveted tank secured thereto. The sides and ends of the tank are constructed of $\frac{5}{16}$ -in, carbon-steel plates and the top and slope sheet of $\frac{1}{2}$ -in. steel. The tender trucks are the Buckeye six-wheel type with carbon-steel axles, plain bearings, and A. S. F. Simplex clasp brakes. The tender brake cylinders, 14 in. by 12 in., are mounted on the frame and the brake equipment is designed to apply a braking load of 70 per cent of the light weight of the tender at 50 lb. cylinder pressure.

The Franklin E2 radial buffer is used between engine and tender and Barco flexible connections are used for engine and tender steam and air lines. The tender draft

gear is Miner A22XB.

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B. & O. Establishes Research Library

By Margaret Talbott Stevens*

AST year a fine collection of railroad volumes from the library of the late Daniel Willard was presented to B. & O. President R. B. White for such use of the railroad as he saw fit. Mr. White visualized in these books the nucleus for the development of a scientific research library, and with post-war problems already under study, the time seemed ripe for its inception. On January 1, 1944, the Baltimore & Ohio research library was established. We are located on the first floor of the general office building in the heart of Baltimore, and we receive some 15 to 35 people a day, not including messengers. Our staff consists of two-a stenographer-assistant and myself, the librarian. We report to the president. As yet we do not work on a budget. Many of our supplies can be provided by the railroad's stationery department, or by requisition through that office. Books are purchased through our stationer, or direct, depending upon how immediate the need is.

Library Service Is Varied

We serve the public as well as the railroad. We have delved into such intricacies as the mechanics of the monorail, the history of English locomotives, of rolling mills and of small towns, and have furnished information for publications (including "Railroad Magazine" and the "National Geographic"). We also have ghost-written letters and stories and speeches. We have done research for the Morse Society in California, the Illinois State, Cleveland Public and other libraries and historical societies; for authors and teachers—even for school children when we can find the time (otherwise we send them such references as may be familiar to us). We have had to call a halt with a few hobbyists, however. Our first duty is to the railroad offices—both at headquarters and out on line. Ours is not a lending library, but there are necessary exceptions in emergencies.

Thus far we have prepared condensations of seven books for officers' consumption—current books dealing with post-war problems and ideas, such as new materials and designs, use of plastics, management and labor, and race problems. Extra copies of these briefs are distributed to executives who may be interested, together with memoranda advising that the book itself is available in the 'ibrary. One set of these briefs netted us 50 requests for the book. It is now in the hands of the superintendent of shops in Pittsburgh; next journey, to a company officer in San Francisco.

Although nearly six months have rolled by, we have not as yet begun to catalog our books. Research started on the first day of the library's existence, and we seem to have put the cart before the horse. Our saving grace lies in several facts:

(1) Through years of research for our public relations work we have become familiar with sources of information; we are familiar with many of the volumes on our shelves

(2) For nine years we have kept records of the bibliography incident to the subjects which we have handled. We do, however, realize the importance of cataloging, and

^{*} Miss Stevens is the B. & O.'s librarian. Prior to this recent position, she was for a good many years assistant editor of the B. & O. Magazine. This article is derived from a paper presented before the Transportation Group of the Special Libraries Association in Philadelphia, Pa., on June 20, 1944.

with some of our library routine now in hand, we hope

to begin very shortly.

(3) We are fortunate in having friends among our railroaders who have never failed to help us, if only by suggesting where we may find leads for information. For example, the engineer, or even the mechanic, who worked on a certain job is often able to give us the date of construction. Many railroaders are sons of railroaders, whose fathers have told them details of railroad happenings. Although their statements must be verified, word-of-mouth records are valuable pointers to helpful sources.

(4) There are also our executives' libraries. Before the research library was established many of our individual officers had amassed collections of volumes necessary to their respective functions, books which they have kept close at hand. To these small libraries we have access—in fact we have been urged to make use of them. familiarity of the owners with the contents, and our familiarity with the duties of the various offices, have reacted to the benefit of our own library. Its boundaries, therefore, are not its four walls; its branches cover many departments of the railroad. Some of the volumes from these smaller libraries have been turned over to us; gradually others are coming into our hands. We plan to have a complete index of each of these collections, most of which are in the general office building. Meantime, we call upon many officers and employees for assistanceand, to date, never a one has turned us down.

Collecting and Filing Material

We never turn down an offer of a gift, but we do explain that if it happens to be fiction, or something that we cannot use, we shall be happy to pass it on to some other library in need of it. There are many libraries in small towns along our lines which are fairly begging for books—including anything of railroad interest (especially for use of teachers and pupils). We receive, package, and send out these books. Also, with an eye to business, we usually ship a book (or package of them) to the local freight or passenger agent, suggesting that he may wish to deliver the package personally and thus make a favorable contact. Furthermore, into each gift volume goes a presentation slip, bearing not only the name of our library, but the name of the person who makes the presentation.

Thus far we have subscribed to few periodicals. Many subscriptions are carried by various offices. Current articles are generally needed for reference at once by several offices. As yet we have not gone into the matter of weeding out duplications, which really are comparatively few; these are usually publications which each officer concerned wishes to pass on to his employees for

notation, and to hold for ready reference.

The public relations department frequently turns over to us dozens of railroad and industrial publications. Magazines for which we have no particular use are sent to our canteens. Some are held intact in file. The remainder are clipped for everything of railroad interest—commodities, new uses, aeronautics, plastics, electronics, engineering, traffic and transportation, economics, scientific discoveries of use (or possible use) in railroading, management and labor, racial questions, crop production, shop practices, etc. Railroad advertisements, or those picturing locomotives are clipped for the school children's envelope, which occasionally supplements material sent from the public relations department.

Clippings are filed alphabetically for ready reference. When one subject has accumulated a goodly file of clippings, these are bound in a standard binder, labeled, some are circulated, and then shelved with books on the same subject. Each becomes a reference book. Fortunately, our railroad's clipping bureau, located next door to the library, also supplies us with some current material. Whenever time allows we scan the contents of business and news publications at the newsstand down the hall, note those of railroad or transportation interest and advise those interested.

The announcement of the establishment of our research library was sent out by the public relations department. It was published in several of the large newspapers, with resultant requests for information from varied sources, and several requests for stories about the library. "Library News" is a regular monthly feature in the "Baltimore &

Ohio Magazine."

Our new purchases have been chiefly concerned with postwar planning. We keep on the lookout especially for material on this subject. Our little memos to officers concerned have brought gratifying responses.

Pettibone-Mulliken Rerailer

The Pettibone Mulliken Corporation, Chicago, has developed a new rerailer with a bridge which fits over the rail and with cleats on the bottom spaced to bear against the side of ties and prevent sliding. The principal feature of the rerailer is that it may be placed by one man, without spiking or clamping and, once set, it is said that it will not tip, upset or slide. This eliminates the need for digging and tedious spiking in cramped quarters, thereby saving time in rerailing work.

The rerailer is made of manganese steel with flares wider than usual and with gradual slopes. It has two hanger holes on the side, one round and one oval, for variable spaced hangers. It has a handle underneath and a large hand hole on the side to facilitate handling and placing in position. The stop on the inside rerailer is said to be low enough for clearance, but high enough to tend to prevent overriding of wheels and its design eliminates dangerous side slip.

Because it is made of manganese steel, the rerailer resists the shock stresses and heavy impacts common to its use without deforming or breaking and if it deforms under unusual conditions, it can be sledged back into shape and

used again.

The rerailer is made in two types, inside and outside, and in two sizes; No. 6, for use on all rail sections up to and including 90 lb.; and No. 7, for use on all rail from 90 lb. up to and including 131 lb. The No. 6 inside and outside rerailers weigh 105 and 115 lb., respectively, and the No. 7 inside and outside rerailers weigh 150 and 155 lb., respectively.



A No. 6 Pettibone-Mulliken Inside Rerailer

New Books ...

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Railroad Panorama, by A. C. Kalmbach. 228 pages. 9 in. by 6 in. Bound in cloth. Published by Kalmbach Publishing Co., Milwaukee 3, Wis. Price \$2.75.

In this book the editor of "Trains" Magazine has assembled a group of articles about railroad operations and equipment, interspersed here and there with bits of history, which will be familiar to regular readers of that monthly, but not less interesting on that account. Most of the material has appeared in the pages of the magazine, but railroad "fans" and others interested in surveys of "some of the more generally interesting and representative aspects of the American railroad scene" will no doubt welcome their appearance in this more permanent form.

Combining a more or less popular treatment of different angles of his subject with a generally dependable background of information, the author has added to the growing collection of books about railroads and the railroad business one that is designed to appeal particularly, he says, to the reader who "just simply likes trains, enjoys looking at locomotives and riding the iron trail to

wherever it may take him."

While those familiar with the publication in which the bulk of this material originally appeared may miss some of the maps that then highlighted the text, a number of the illuminating and appropriate illustrations have been incorporated in the book. In his subject matter, the author has ranged at will, and purposely without much regard for chronology or geographical sequence, through descriptions of favorite trains, both passenger and freight; accounts of great events in the lives of roads that have grown to further greatness and others that have been overwhelmed or swallowed up in the march of progress; and stories of engineering achievements and operating performances in which dramatic incident is blended with elements of the routine and prosaic parts of railroading that, to the interested and sympathetic onlooker, also have their color and vital atmosphere.

Among the twenty chapters of the book Mr. Kalmbach has written of the new "Empire State Express"; of the "Exposition Flyer" of today and the earlier one of a half-century ago; of the white and buff and gold "Fast Mail" on the Lake Shore in 1875 and the equally colorful "Portland Rose" and other modern streamliners. He has described the Feather River canyon line of the Western Pacific, the Horseshoe Curve of the Pennsylvania, and the Edgewood cut-off of the Illinois Central. He has gone into the narrow-gage field in a life-story of the Denver, South Park & Pacific, into m.-u. suburban service in a report on handling commuter business on the I. C. af Chicago, and into location and construction achievements represented by the opening of the Canadian Pacific along the north shore of Lake Superior and the completion of New York's Grand Central Terminal. He has touched on interurban electric, way freight, main line electric, and record-speed passenger operations. And in contrast to these major passages in the composition, he has offered a "mosaic" of thumbnail portrayals of lines like the Port Isabel & Rio Grande Valley and Green Bay & Western, the Monon and A. B. & C. and Yosemite Valley, to emphasize further the diversity of the individual parts that have been woven into what he calls "the world's greatest example of co-operative organization," the railroads of America.

The Geography of World Air Transport, by J. Parker Van Zandt, 67 pages. 9¼ in. by 6 in. Bound in cloth. Published by the Brookings Institution, 722 Jackson Place, Washington 6, D. C. Price \$1.

An announcement of this publication indicates that it is the first of three volumes in a series called "America Faces the Air Age," in which the succeeding numbers will deal, respectively, with the relation of civil aviation to the preservation of peace and with the organization, ownership and operation of world air transport. The theme of this first volume is essentially that the time has come for a re-appraisal and re-shaping of conventional ideas of world geography and world economics, and for getting away from distorted flat-map conceptions of geographical relationships in formulating an international outlook.

Devoted almost entirely to a discussion of the factors of physical

and economic geography which, in the author's opinion, will-largely control the development of the pathways of international, and particularly inter-continental, air transport, the book has only a collateral connection with domestic transportation problems. It sets forth certain characteristics of what the author calls the "principal hemisphere," which includes 94 per cent of the earth's population and 98 per cent of its industrial activity, and indicates how a Europe united economically and industrially would, because it has at the center of this hemisphere, appear to have competitive advantages over the United States, in population, in commerce, and in potential productivity.

Among many economic factors considered in the book in relation to future international air commerce is the relative prewar development of surface transportation in different regions, in which it is brought out that, in 1937, Germany, with an area less than that of Texas, reported substantially more railway passenger-miles than the entire United States, the comparative

figures being 31,128 million against 24,695 million.

Communications . . .

Why Camouflage Diesels?

TO THE EDITOR:

SEATTLE, WASH.

Many Diesel-electric switching locomotives and rail motor cars have their ends striped diagonally in black and white, ostensibly to be more conspicuous. Is not this striping actually a form of camouflage which not only destroys the outline of the locomotive or car but makes it less conspicuous? Why not undertake some research on this point?

Why not glamourize modern equipment by more artistic, brilliant and streamline painting instead of making locomotives and cars look as hideous as possible when viewed up close and hard to see

at a distance?

C. B. BRUSE

How Comfortable Should a Caboose Be?

WASHINGTON, D. C.

TO THE EDITOR:

I have just read with interest your editorial in the June 17 issue, entitled "Standards of Comfort for Railroad Employees." I agree with your conclusions and appreciate that they refer to terminal situations. I should like, however, to add a few words concerning a sometimes overlooked opportunity for making freight train service more attractive for trainmen not only at certain terminals, but between all terminals, as well.

I refer to the caboose, which is at once a "traveling" combination of observation tower, office, storage provision for equipment and supplies, shelter for the men on the rear end, and, not infrequently,

"home" for the crew at other than the home terminal.

Not all cabooses are well designed for the purposes they serve. They need not be elaborate to be satisfactory, but they should meet the everyday convenience and comfort of the crew in getting over the road and doing their work. The designer should know what the needs are, and an excellent plan is to get the ideas of some of the old timers regarding the shortcomings of the cars in use. Above all, a caboose should "ride easy." The rough riding caboose is a prolific source of dissatisfaction and decreases efficiency by undue nervous and physical strain.

As for facilities for sleeping and eating, these should be ample, and, of course, the cars should be screened for summer, with ade-

quate heat and tight doors and windows for winter.

The idea may be summed up practically in the words of a general manager under whom I served at one time: "Fix it so you and I would be satisfied to run a freight train on this division," he sagely observed.

EDWARD H. DE GROOT, JR.

Railroads-in-War News

Oil Movement Still Heavy on Railroads

Senate committee terms their contribution greater now than it was in 1943

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The domestic petroleum transportation situation has been "tremendously improved," the committee found. "At present, with ocean tankers delivering less than 10 per cent of the total, movements to the east coast are even higher than the prewar movements, when tankers were carrying more than 95 per cent of this oil. On the other hand, we are supplying to the armed forces, from the continental United States, over 1,000,000 barrels a day more than in 1941"

Situation Still "Tight"-Nevertheless, the report went on to say, "it cannot be said that the transportation problem is completely solved. With the staggering increase in military requirements to fuel the invasion of Europe and in other parts of the globe, many transportation difficulties of increasing magnitude are being encountered and must be overcome. At this time the supply of tank cars, not only for rail movements to the east coast and west coast but for the myriad of diversified movements throughout the country, is particularly tight. Only by careful planning and skillful manipulation can the growing demands for tank cars be satisfied.'

When, in July, 1943, the tank car movement of petroleum to the east coast reached the million barrels per day peak, approximately 45 per cent of the total movement consisted of crude oil, more than half of which moved in the relatively short haul from Norris City, Ill., to the seaboard, the committee pointed out. Today, due to the completion of additional pipe lines, less than 30 per cent of the tank cars in the east coast service are carrying crude oil, and most of these are engaged in the long haul service from the Southwest. remaining 70 per cent are moving petroleum products, and in many instances, in order to serve the needs of the armed forces, the committee said, these cars are in service from widely scattered points of

origin to equally scattered destination points, in contrast to the situation last year, when about 80 per cent of the 74,000 tank cars then in the east coast service were engaged in solid symbol train movements.

Serving West Coast Too-Because of changing requirements, the number of tank cars in east coast service is now about 60,000, the report explained. On the other hand, rail movements of oil to the west coast, which require a substantially higher turn-around time as compared with the east coast, have more than doubled during the past year, and every indication points to a still greater increase in the early "While it would be undesirable to attempt to increase the burden on the already overburdened railroads unless absolutely necessary," the committee reported, "they would in an emergency be able to carry substantially more petroleum, provided additional tank cars could be returned to east coast movement. . . . It may be necessary to utilize this reserve should anticipated tanker tonnage fail to become and remain available to move distillate to the east coast."

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Converted from compartment-observation cars, the air-conditioned cars each have a ward with 14 double-deck steel beds to accommodate 28. Broad aisles between rows permit the greatest possible freedom of movement:

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Consequently, Mr. Kendall continued, permit agents appointed by the Interstate Commerce Commission have frequently found it necessary to shut off the movement of grain to their markets, and the railroads have had to supplement these restrictions with embargoes of their own against individual receivers who were getting more cars than could be unloaded promptly.

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Port Operation-"Captured ports are operated by transportation officers who are

responsible for keeping supplies flowing up to the front," he added. "In the first six months of Allied operations, the tonnage discharged through Naples, which the Nazis boasted was knocked-out, was only a fraction under the total for the best prewar year. At Naples, Anzio, Persian Gulf ports, in the Pacific and every other war theater-at more than 90 ports-Transportation Corps port battalions have the back-breaking job of unloading from ships" all supplies for the battlefronts.

The Transportation Corps operates the Army's 17 hospital ships, and by the end of 1944, 24 hospital ships will be at sea, General Gross reported. Transportation Corps port battalions have won the unqualified praise of British and American forces in Europe, he said. In the English ports and on the Normandy beaches, these men worked from 30 to 50 consecutive hours without relief, loading and unloading supplies. Transportation Corps amphibian truck companies operated "ducks" from cargo ships to shore dumps, and a new organization, the Transportation Corps port marine maintenance companies, made up of highly skilled technicians and machinists, some of them civilians, repaired almost on the spot many of the craft damaged in the attack.

4 Million Soldiers Overseas-General Gross went on to say that more than 4 million troops and more than 63 million ship-tons of supplies have been transferred from United States ports to 127 different overseas ports in the 31 months from December, 1941, through June, 1944. Since

Pearl Harbor the Transportation Corps has sent to the European Theater alone more than 18 million ship-tons of cargo, he said, and the volume of Army traffic moved overseas during the past year shows an increase of more than 100 per cent over that of any previous year. Nearly twice as much cargo was shipped in May of this year as in the corresponding month last year.

So tremendous was the total volume of supplies going to all theaters a year ago to mount the offensives now in progress that it totalled 71/4 ship-tons of space for every soldier going overseas, and slightly more than one ship-ton per man already overseas. At the present time, the over-all average has dropped to five ship-tons of supplies shipped for each soldier. Part of this drop is explained by constantly improved packaging and stowing developments, such as the twin-vehicle pack and knocked-down freight cars. Each man now requires one ship-ton of supplies per month to maintain him overseas, General Gross said. Other points in General Gross' report were these:

Reliance on Railways-Troops transported on organized movements by domestic carriers in the United States from December, 1941, through June, 1944, totalled 23,-300,000. Of this number, 22,800,000 were carried by rail, and 500,000 by highway. The Transportation Corps issued troop movement orders for the transportation of all troops on organized moves. These troop movements involved the use of 196,000 coaches, 334,000 sleeping cars, 103,000 baggage and kitchen cars, and 148,000 refrigerator, box, gondola and flat cars. An average of 34 cars was required for each 1,000 men moved.

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A total of 172,800,000 tons of War Department freight and 600,000 tons of express were moved by the railroads in this 31-month period. Highway carriers moved 14,700,000 tons.

The Transportation Corps now has a total military and civilian personnel strength of more than 350,000, many of them transportation specialists. Total military personnel amounts to 277,655, more than the entire prewar American army. Well over half this number, 157,000 to be exact, are overseas in nearly 600 different units. Over 4,000 Wacs, including 200 officers, occupy 239 different Transportation Corps jobs at ports and in transportation zones in the United States. More than 650 others have gone overseas. The corps employs 84,000 civilians, and more than 17,000 of this number are overseas or are crew members of Army transports, hospital ships, or small boat companies.

Col. N. A. Ryan Receives Legion of Merit Reward

Colonel Norman A. Ryan, Chief of Military Railways Division, European Theater of Operations, and formerly general manager of the Milwaukee, has been awarded the Legion of Merit for "exceptionally meritorious conduct in the performance of outstanding duties," Headquarters, E. T. O. has announced.

A veteran of the Railway Transporta-



Photo by T/5 Colgate, U. S. Signal Corp.

M. R. S. Officers and Non-Coms in China-Burma-India Theater

Transportation Corps personnel, whose duties include operation of the Bengal & Assam Ry. (described in the Railway App., June 24, page 1208). Front row, left to right: Lt. Cols. R. J. H. Mertz, and Marion B. Richardson (the latter was formerly with Railway Age); Cols. Phillip W. more, and Edward C. Rose; Brig. Gen. Thomas B. Wilson (commanding); Maj. Howard C. Helgerson; Lt. Cols. Allen C. Bigelow and Herbert

F. Farmer.

Second row: Majs. Charles W. Beech, Maurice C. O'Herin, Herbert M.Phillips, Frederick D. Robinson, Carl J. Sunberg; Capt. Robert Crawford;
Lt. Guy S. Hensley, Jr.; Majs. Eugene W. Preble, Chester A. Lee, Charles E. Craig, and Capt. Floyd R. Hopkins.

Third row: Capt. Cyril J. Harbeke, William B. Thompson; Lts. William F. Vanderhoof, Kenneth M. Cantrell, Thomas E. Morris, Henry R. Dowd, Alexander S. Charleston, William A. McFadden, Arthur C. Yaggie, Ernest G. Hasenbein.

Fourth row: Lts. William W. Hollister, John C. Hensyl, George L. Casey, Murray LaSchell, David L. Primm, George W. Anderson, George M. Dorsay, Victor DeMare, Irving Michter; Capt. Cecil J. Sellens; W/Os Warner R. White and Cecil B. Cutler.

tion Corps in the last war, which he entered as a private in 1918 and left as a first lieutenant in 1919, Colonel Ryan has been Assistant Chief of Transportation and Chief of the Military Railways Division, in England, since June, 1942. It has been his responsibility to prepare the set-up for U. S. co-ordination with British railways, and to plan shops for construction, assembly and repair of locomotives and freight cars. The Legion of Merit was awarded him for effective handling of these problems.

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By the time the Military Railways' work was well in hand, the Marine Operations Division of the Transportation Corps found that its schedule for construction and con-



Col. Norman A. Ryan

version of barges and naval MT boats for use in the invasion had begun to lag dangerously. Colonel Ryan thereupon sent detachments of railway shop battalions to work on marine construction and conversion, and as a result of his planning, the marine schedule was met. No interruption in the steady pace of railway construction schedules occurred.

Except for the interval during which he served in World War I, Colonel Ryan has always been a railroad man. Following his graduation from high school in 1910, he went to work for the Chicago, Burlington & Quincy. In 1939, shortly after his appointment as general manager of the Chicago, Milwaukee, St. Paul & Pacific, in Seattle, Wash., he was commissioned a major in the Engineer Corps Reserve.

Movement of Winter Wheat Passes Peak

(Continued from page 206)

portation, the larger grain markets have received all the cars they could unload and handle promptly. Such delay as has occurred in the movement of grain from the country has been due almost entirely to conditions over which the railroads have had no control."

Mr. Kendall pointed out that the storage of grain on the ground is a customary practice in heavy wheat producing areas, and does not represent any serious loss in quantity or condition. By far the largest proportion of such grain as may be in ground storage in the Southwest today is still held

on the farms and is not in any sense a problem of immediate railroad transportation, he added.

With demands in the winter wheat territory decreasing, Mr. Kendall stated, the movement of empty cars which heretofore has been directed to the Southwest is now routed to the railroads serving the spring wheat territory of Minnesota, Montana and the Dakotas. According to the latest estimates wheat production in 1944 will set an all-time record of 1,127,822,000 bushels, or 100,000,000 bushels above the previous peak year of 1915.

Nursery in Penn Station an Aid to Traveling Mothers

A carefully-planned and attractively fitted infants' nursery, with sound-proof ceiling, was opened, July 24, in Pennsylvania station, New York, thus affording journeying wives of servicemen, in particular, a convenient spot to care for their infants' wants free of charge. Twenty-eight babies were accommodated on opening day, and by shortly after noon on the second day, 30 more had rested between trips into or out of New York.

The nursery is 50 x 18 ft., and the space has been well utilized. The general appearance is one of comfort and roominess. Facilities are provided for bathing the baby, and there are electric hot-plate bottle warmers, as well as refrigeration facilities for cooling milk. A mother can prepare feeding formulas, and the railroad provides towels, and a change of fresh bed linen with each crib occupant.

Walls in the receiving end are buff. There are two large rose-red Velon (plastic) cloth sofas, a desk, book case, and chairs of bleached white oak. There are six murals, depicting nursery rhyme characters. Flooring is of black and grey asphalt tile. Two black table lamps, a floor lamp and large wall mirror complete the appointments. Flex-glass partitions set apart the four-crib nursery. A bath is at one end of the

room, and along the wall parallel to the sleeping quarters are the refrigerator, sinks, hot plates and cupboards. Green composition walls are used here.

William Mylcreest, designer in the chief engineer's office, and John Gordon, inspector, are responsible for the planning and purchasing of all fittings and materials.

Railroad Employees' War Record Elicits Admiral's Praise

A message of commendation from Rear Admiral W. B. Young, chief of the Bureau of Supplies and Accounts of the U. S. Navy, has been sent to American railroad employees and officers through the presidents or executive officers of the individual roads.

"The success of the Allied landings in western Europe—in fact, the success of every campaign undertaken by American ships and men in every war theater—has depended heavily upon the efficient transportation facilities which the railroads of the United States have made available to the armed forces and to the war plants producing for them," Admiral Young said.

"Materials must arrive at factories and shipyards on time if production schedules are to be met. Men and equipment must arrive at embarkation docks on time if invasion schedules are to be met. It is to the lasting credit of the men and women who staff and operate our railroads that they have never failed to meet these grave responsibilities. Every one of you may be proud of your individual part in helping the Navy to gain command of the seas and carry the fight relentlessly toward the inner citadels of the enemy."

Way Cleared for 10,000 More Mexican Track Workers

Another ten thousand Mexican citizens will be brought into the United States under six months' individual contracts to work as track and maintenance of way em-



Nurse Ruth N. Hoffman Checks in One of Her First Charges

Nursery is open from 7:30 a. m. to 12:30 a. m., and a registered nurse and matron are on duty at all times.

ployees on American railroads, according to the War Manpower Commission, The importation of these additional workers will raise the total number brought into this country for such employment to about 50,-000, it was said.

Under the arrangements completed with the Mexican government for the recruitment of these workers by the Railroad Retirement Board, they will be assigned to 29 railroads, and they are not permitted to engage in work except on railroads. The contracts under which the men work are with the United States government, and are subject to renewal at the end of their life of six months. These contracts provide that, in addition to the deduction of 31/4 per cent from their pay required under the terms of the Railroad Retirement Act, a 10 per cent deduction is made for deposit to the individual's credit with the National Bank of Mexico.

Industry Group Leaders Called to Manpower Committee

The War Manpower Commission announced July 23 the creation of a new Industry Associations Committee, the purpose of which is to enlist industry in "an intensified search for ways of conserving and fully utilizing manpower to meet critical shortages."

According to W. M. C. Chairman Paul V. McNutt, the committee will "encourage specific industries and industrial groups to cooperate in the exchange of applied new discoveries, ideas and methods that have resulted in a reduction of manpower requirements." It will work through trade associations and trade publications, he said, in procuring case histories of tried and proved changes and methods that have accomplished a saving of manpower.

It is anticipated that some 750 industries. represented by leaders in 12 major industrial groups, will participate in the program. Already appointed to the committee are the following: Manufacturing, Col. W. F. Rockwell, chairman of the board, Timken-Detroit Axle Co.: Transportation, Communication and Public Utilities, J. J. Pelley, president, and E. H. Bunnell, vice-president of the Association of American Railroads; Electrical and Miscellaneous Industries, Ralph J. Cordiner, assistant to the president of General Electric Co.; Service Industries, Frank A. McKowne, president, Statler Hotels Corp.; Lumber, Printing and Paper, Ben R. Ellis, secretary-manager, Southern Cypress Manufacturing Association; Mining and Petroleum, William A. Ogg, former president of the American Zinc, Lead & Smelting Co.; Finance, Insurance and Real Estate, Morgan L. Fitch, president, Illinois Association of Real Estate Boards; and Textile and Leather, Frank L. Walton, vice-president of the Catlin Finish Co.

Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since July 8, and which are of interest to rail-

Car Materials—Operators of transportation systems who have been unable to take advantage of the provision for placing advance orders for delivof special items of car materials because they had no first-quarter 1944 authorization to use as a "base," may be given individual authorization. Direction 3 to P-142 provides that advance or ders for air brakes, power hand brakes, brake beams, couplers, coupler bodies and car bolster springs may be placed for delivery in each of the three quarters following the quarter in which the three quarters following the quarter in which the order is placed. An operator may order the order is placed. An operator may order for delivery in each advance quarter up to 75 per cent of the amount of each of the above items authorized for him for the first quarter

Direction 3 has been amended to provide that if an operator has no first quarter 1944 authorization to use as a "base" against which to apply the 75 per cent quota for advance ordering of any item under this direction, W. P. B. may establish a base by written authorization to the operator. The W. P. B. also may direct that an operator's base be increased or reduced if his first quarter 1944 authorization does not propdoes not prophrst quarter 1944 authorization does not prop-erly represent his advance quarterly needs for the particular item. If such a revised base is established, the operator may place advance orders against it, subject to all provisions of Direction 3.

"Construction"-Defined-Amplification of the description of the kind of construction work cov ered by paragraph (b) of Order L-41, providing a more detailed definition of "the installing of equipment and fixtures," is provided by Interpretation 9, which specifically states that Interpretation 9, which specifically states that certain kinds of installation are construction and are governed by the restrictions of L-41. The following kinds are listed:

"The installation in the provided by the restriction of L-41. The following kinds are listed:

"The installation of any piece of equipment or fixture which is attached to the plumbing system of a building; the installation of any piece of equipment or fixture which involves putting new wiring in a building; the installation of any piece of equipment or fixture for which a base or foundation must be built; the installation of any piece of equipment or fixture cemented

to a floor or wall of a building: the installation of a furnace or stoker connected by pipes or flues or wiring to the building."

The following kinds of installations are not

considered construction under L-41:

"The installation of a counter, table or booth which is attached to the building only by nails or screws and which can be removed as a unit or screws and which can be removed as a unit and will only make it necessary to fill up the holes left by the nails or screws (however, if the counter contains equipment which is attached to the plumbing system, construction is involved); the installation of a piece of equipment or fix-ture which requires only making a connection to an existing wiring outlet (if new wires must be run or a new outlet built into the wall or ceiling, construction is involved)."

W. P. B. said these examples illustrated the general principals concerning installations cong construction under the restrictions of In case of doubt as to a particular in-on, W. P. B. suggested the nearest B. regional office should be consulted or stituting stallation. an application be filed for permission to proceed

Corundum—Corundum ore is still in short supply despite the relatively satisfactory picture of the balance sheet, due to low imports from South Africa. Essential requirements of the grinding wheel industry cannot be supplied at present nor can the stock of low grade boulder ore be efficiently utilized without more crystal

Planer and Shaper Gages-Planer and shap Planer and Shaper Gages—Planer and shaper gages and hardened steel squares have been added to Exhibit A attached to General Preference Order E-5-a (Gages and Precision Measuring Hand Tools). Exhibit A lists the types of tools governed by the order. These items were omitted through oversight from Exhibit A when the order was amended June 6, W. P. B. said.

Southern Pine Small southern pine lumber sawmills that customarily make special cuttings sawmins that customarily make special cuttings of railroad material, crossarins and paving block stock may apply for special prices on such cuttings, in accordance with Amendment No. 2 to MPR-19A, effective July 18. Permission will MPR-19A, effective July 18. Permission will be given only to those applicants who have made a regular practice of cutting specially for railway material, including car and bridge material, for use by railroads or car shops; crossarms, paving block stock, and similar dense cuttings. The log-run southern pine lumber regu-lation (MPR 19-A), under which these mills operate, and which is amended by the new acoperate, and which is amended by the two action, makes no provision for these occasionacases of special cutting. It was prepared especially for the numerous small mills that oper ate on a log-run basis, selling their product is" without any selection being made for gra

Heretofore, those mills which desired to make such special selections and thus obtain more than the log-run price had to qualify as sellers on the grading basis established by the major southers grading basis established by the major southers pine lumber regulation (2RMPR 19) which covers the larger mills and sets up prices by grades This procedure, O. P. A. said, imposed an un detailed degree of grading and pricing necessarily detailed degree of grading and pricing upon small mills not equipped or unable to meet the requirements of the latter regulation. The new procedure makes the grades as simple as possible and recognizes the special quality of the cutting. Moreover, said O. P. A., the grade is simple enough so that the seller can take full responsibility for it without having to rely on the buyer's inspection.

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The object of the action, said O. P. A. make provision for those sellers who definitely select and sell an item for which they have specially cut. It is not designed to give an increased realization to persons selling something equivalent to a log-run assortment. In practically all of the cases where producers will benefit by good timber of dense grade. The prices established under this procedure will be carefully adjusted so that, if the separate item for which as addition is given detracts from a fair log-run assortment, the remainder of the cut will have to move at a lower price than the regular log-

system of registration numbers will be used. which only buyers and sellers having under which only buyers and selers having a registration number may buy or sell a particular cutting at the special cutting price. MPR 19-A applies only to sawnills which have no planing mills or which usually sell their lumber rough, and which cut 4,000,000 f. b. m. or less of southern pine lumber in 1943.

Wiping Cloths—Processors of individual wiping cloths are now required to set aside 66% per cent of their production (stepped up from 25 per cent) for delivery on military orders. increase is provided for in amendments to L-312.

Prices

Cypress Switch Ties and Yellow Pine Piles To correct disparities between the maximum price on cypress switch ties and those on lumber of species Amendment 4 to Second RMPR 216, effective July 19, provides certain changes in the switch tie regulation. The principal change is that railroads may pay \$8 per M. f. b. m. more for heart red and black cypress switch ties. This action, establishes a new price on heart yellow and white cypress switch ties; in-creases the price of heart red and black cypress switch ties; and reduces the price of 18-in. minimum-butt Southern yellow pine piling. Maximum prices for red and black cypress switch ties, containing 85 per cent or more heart and for use untreated, are increased from \$60 to \$68 per M. f. b. m. to narrow the price differential be-tween them and those on comparable items of tween them and those on comparable items of lumber established by MPR 412. The new amendment cuts this price differential from \$11.50 to \$3.50 per M. f. b. m.

For the first time a dollars-and-cents schedule is established for yellow and white cypress switch ties containing 85 per cent or more heart. These species were not covered previously because of the very small volume of production species were not covered previously occause of the very small volume of production. However, in-creased production makes it necessary to bring them under specific prices. The new ceiling of \$54 per M. f. b. m. is intended to carry the same relationship with lumber prices under MPR 513 as that existing between other species of switch ties priced in the switch tie regulation (MPR 216) and the appropriate lumber prices. Prices were formerly fixed by O. P. A. under special pricing provision in the latter regu-

lation.

Prices of 18 in. butt Southern yellow piling are reduced on lengths 53 to 82 ft. clusive, to establish a better relationship with prices on other butt sizes and lengths. These reductions vary from 1 to 4 cents per lineal foot. In the regulation, the original prices were due to an error in calculation, O. P. A. said.

GENERAL NEWS

Susquehanna Plan Approved by I. C. C.

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No provision for old company equity holders; fixed charges slashed

Division 4 of the Interstate Commerce Commission has approved a plan for the reorganization of the New York, Susquehanna & Western in which, as is most plans formulated in recent years by this body, the equities of the holders of the preferred and common stocks of the old companyare found to have "no value." The proposed capitalization of the new company is \$14,452,844, compared to about \$38,885,000 for the debtor in bankruptcy.

Reorganization of this company under section 77 of the Bankruptcy Act was instituted June 1, 1937. Certain insurance companies filed a proposed plan of reorganization with the commission in 1942 which called for a capitalization of about \$16,250,000, while Examiner C. A. Bernhard recommended a capitalization of about \$14,000,000 in a proposed report which was analyzed in Railway Age of September 4, 1943, page 389. The plan approved by the division incorporates many features of these two proposals.

The capitalization and annual charges approved by the division are as follows:

Equipment obligations Fixed-interest bonds Additions and betterments		Annual charges \$9,623 200,000
fund		85,000
Contingent-interest bonds	2,500,000	20,000 112,500
Total	\$7,952,844 3,000,000	\$427,123 150,000
\$100 per share)	3,500,000	
Total	14,452,844	\$577,123

The fixed-interest bonds would be issued in two classes, \$2,000,000 of modified 4 per cent Terminal bonds maturing in 1994 (replacing a like principal amount of 5 per cent Terminal bonds maturing in 1943) and \$3,000,000 of first and consolidated 4 per cent bonds maturing in 2004. The contingent-interest issue would be 41/2 per cent general mortgage income bonds maturing in 2019. Both stock issues would be placed under 5-year voting trusts, and holders of voting trust certificates would entitled to instruct the trustees on voting the stock, except where holders are railroads or "affiliated with a railroad." Until the income bonds have been retired. the preferred stock is entitled to elect one less than one-half the membership of the board of directors. A sale, consolidation, or merger of the new company can be effected by approval of 51 per cent of holders of each class of voting trust certificates who are entitled to instruct the trustees, that is, excepting railroads and "affiliated" persons.

Allotments of new securities to the creditors of the old company would be as follows for each \$1,000 principal amount of claim:

First and Con mtoe

	consol. mtge. 4% bonds	4½% income bonds	
Midland of N.J. bonds Refunding bonds			\$366.97
2d m'tgage bonds Gen'l mtg. bonds.			 1,316.25
Patterson Extension bonds			 1,076.00
Unsecured claim.			 100.03

In addition, as stated above, old company Terminal bonds would be replaced by an equal principal amount of a new issue. plus cash for interest accrued. Holders of the \$200,000 of Patterson Extension bonds would participate also in the distribution of certain non-carrier property, estimated to amount to \$55,634. The unsecured claims represent principally one of \$2,250,000 by bondholders of the bankrupt Wilkes-Barre & Eastern, whose securities had been guaranteed by the debtor company, and one of \$116,517 by the Lehigh & New England. No provision is made in the plan for any participation by the Erie. which had controlled the old company through stock ownership, since a settlement effected between the trustees of the two roads already has been approved by the courts of jurisdiction and carried out.

Pointing out that a court decision in New Jersey in June of this year affecting the liability of the debtor company for interest penalties on taxes in that state might ultimately increase the sum payable to the state to \$1,012,636, in addition to \$1,191,577 previously set aside in respect of the principal of such tax claims, the division held that various considerations, particularly the present good earnings of the property under war conditions, will so effect the position of the trustee to meet this claim, as finally adjudicated, that no change in the plan of reorganization need be made to take care of the possible liability.

The effective date of the reorganization would be January 1, 1944. The division's report referred to litigation between the Susquehanna and the New York Central and Erie over steps taken by the former road's trustee to disaffirm certain trackage rights agreements covering switching in the vicinity of its Edgewater, N. J., terminal. While the insurance companies had proposed that the reorganization plan approved by the commission include a provision conditionally disaffirming these contracts, the division held such a provision would not be compatible with the public interest, in view of the long period in which the arrangement had been in effect.

Transport Policies Adopted by C. of C.

Common control of all forms of transportation favored within fixed areas

The membership of the Chamber of Commerce of the United States in referendum votes has approved two committee reports—one of which recommended modifications of existing restrictions on operation or control of one form of transportation by another, while the other advanced proposals for a joint federal-state-local program for development of a country-wide system of airports at public expense.

These reports, which were prepared by the Chamber's committee on transportation and communication, were summarized in Railway Age of April 1, page 654. In disclosing the results of the ballots, the Chamber pointed out that the referendum on relations between the different branches of transportation aroused "intense interest" among its membership, and brought widespread submission by interested and competing transportation interests of arguments to the voting organizations from their separate points of view.

Co-ordination Favored—In the past, somewhat similar controversies have developed over some of the Chamber's referenda, it was explained, and in several instances one or more of the recommendations set forth in the reports have failed of adoption by the required two-thirds vote of the membership. None of the recommendations in the two transportation reports failed of adoption, however.

The specific proposals with respect to various forms of transportation were as follows: (1) Operators of one form of transportation service should be permitted by law to operate other forms within reasonable territorial limits upon making an adequate showing to the appropriate regulatory authorities that it would be in the public interest and would not unduly restrain competition; and (2) Operators of different forms of transportation should be encouraged, under proper safeguards in the public interest, to coordinate their services through contractual arrangements. The first proposition was approved by a vote of 1,483 to 352; the second, by a vote of 1,687 to 188.

Private Enterprise Vetoed—The report on airport facilities was based on the premise that the responsibility for planning and financing an airport system somewhat similar to the existing federal-aid highway system rests primarily on the states and localities concerned, but at the same time a coordinating participation by the federal (Continued on page 217)

I.C.C. Scrutinizes Alleghany's Affairs

Investigates continuity of its control over the C. & O. and other carriers

The investigation of the Interstate Commerce Commission into the lawfulness of the control now exercised by the Alleghany Corporation over the Chesapeake & Ohio, Nickel Plate, and Pere Marquette reached the stage of public hearings on July 26. The commission on its own motion instituted the inquiry, which is docketed as No. 29085, on February 7, and this proceeding has been consolidated with Finance Docket No. 14561, in which, as noted in Railway Age of May 27, page 1048, Alleghany has asked for a commission finding to the effect that its control of the three roads was not acquired, and is not now maintained, in violation of section 5 of the Interstate Commerce Act, or, alternatively, for its approval of such control.

Did Alleghany Control Lapse?—Apart from a short statement by counsel for Alleghany and the corporation's principal stockholders, Robert R. Young and Allan P. Kirby, indicating their position, the opening sessions of the hearing were taken up with the introduction of some 116 documentary exhibits prepared by the commission's Bureau of Inquiry. Following the presentation of this material, witnesses subpoenaed by the bureau, including former officers and directors of the C. & O., were scheduled to be heard.

In brief, counsel for Alleghany said, the position of his clients is that Alleghany acquired control of the railroads early in 1929, and since then has continuously maintained such control at all important meetings of the directors. The bureau, on the other hand, according to its counsel, takes the position that Alleghany acquired control of the carriers in 1929 and has control now, but did not have control, or the power to exercise control, during the years 1938 to 1941, inclusive.

The degree of control held by Alleghany at the time mentioned is of importance in the case particularly because amendments to the Interstate Commerce Act made effective through the passage of the Transportation Act of 1940 made it unlawful for non-carriers to acquire control of carriers without first obtaining authority from the commission to do so. This provision, paragraph (4) of section 5 of the act, would not disturb control acquired lawfully prior to its passage, of course, hence the importance of the continuity of control which Alleghany has maintained over the three railroads. As defined in the statute, "control" includes the power to exercise control or management, and the requirement that commission authority be obtained applies "however such result is attained, whether directly or indirectly, by use of common directors, officers or stockholders, a holding or investment company or companies, a voting trust or trusts, or in any other manner whatsoever."

Railroad-Owned Airlines Couldn't Monopolize

In Great Britain where the railways and the steamship companies are seeking authority to provide postwar air transportation, arguments similar to those on this side of the Atlantic are advanced against permitting older agencies to engage in newer forms of transportation, viz., that the older agencies "want to stifle air traffic" and "their purpose is to skim off the profitable cream of the business, leaving the rest to be borne on public funds."

The "Economist" (London) dismisses these arguments as contradictory. It says: "If there is competition, it will not be possible for particular railway or shipping companies either to stifle air transport or to skim off the cream of profitable business. . . . Neither the railways nor the [ship operators] ask for either subsidies or a monopoly of routes. . . . This request for opportunities to fly represents enterprise, and should not be prejudged unfavorably."

Position of Young and Kirby-Inasmuch as Messrs. Kirby and Young obtained their interests in Alleghany securities in 1937 and have since maintained them, they are, as individuals, apparently subject to whatever findings the commission makes as to the continuity of the control maintained by Alleghany over the railroads, and the legality with which such control is now exercised. The issue may be further narrowed to an examination of the relationship between Alleghany and the C. & O., since the commission authorized the C. & O. to acquire substantial control of the Pere Marquette in 1929 and of the Nickel Plate in 1937.

The application in F. D. No. 14561 is believed in some quarters to constitute an acknowledgment by Alleghany that the commission may exercise some control over its activities, and it has been pointed out that it was filed subsequent to the decision of the Supreme Court in the so-called Refiners Transport case (reported in Railway Age of April 29, page 830), which has been regarded as confirming the view that the commission may exercise wide powers over non-carrier companies or individuals exercising control of carriers.

Production of Trailers

The War Production Board disclosed last week that it has approved a program for commercial truck trailer production for the first half of 1945 to total 14,464 units. Allocations have been approved for the Office of Defense Transportation, Maritime Commission, Foreign Economic Administration, and Canada, out of this total. Included in the number would be 11,248 general freight units, 130 milk tanks, 625 oil tanks, and miscellaneous vehicles. The carryover from the 1944 program would become part of, and not be added to, this 1945 program, it was explained. The 1944 program called for 31,000 units.

Aviation Expansion Will Be Socialistic

Burden explains airport plan whereby taxes, not users, would foot the bills

Evidence continues to mount that air transportation development in this country has been largely pre-empted as a socialized governmental function—to be planned and directed by bureaucrats and paid for by taxation, rather than instituted by private capital seeking to recoup its outlays, plus a profit if possible, from the voluntary payments of customers. William A. M. Burden, assistant secretary of commerce, made this policy (with which the quantitatively insignificant private capital engaged in aviation seems to have no quarrel) further explicit in a radio address on July 23.

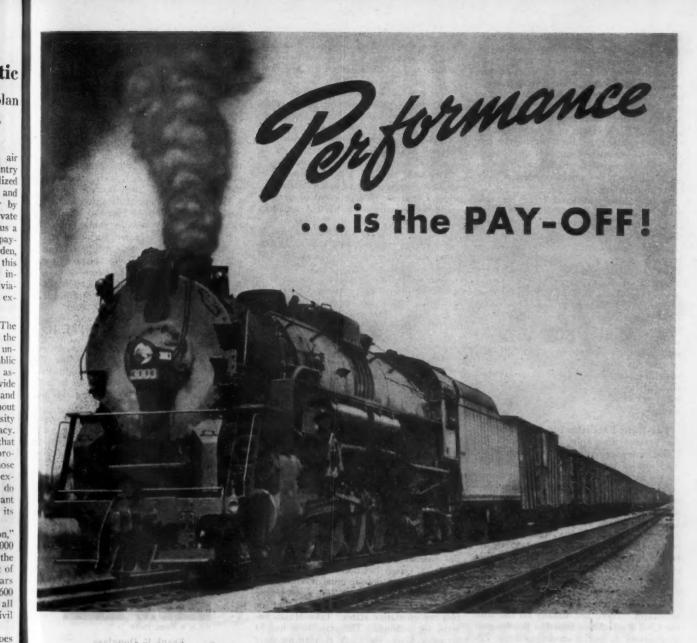
Private Capital Not Considered-The airport, said Mr. Burden, "is the key to the problem"-and he does not disclose any understanding that, if the consuming public desires these facilities as much as he assumes, then private capital would provide them, as it does other economic goods and services, wherever they are needed, without cost to the taxpayers and without necessity for "planning" by the Federal bureaucracy. Instead, Mr. Burden takes for granted that airports are a facility which must be provided by tax funds-thereby forcing those who are not interested to share in the expense for an economic service that they do not want, in order that those who do want the service may enjoy it at less than its full cost.

"The Civil Aeronautics Administration," he said, "is now completing a \$400,000,000 program of building airports to meet the needs of the armed services. As a result of this program, which was begun three years ago, the United States acquired some 600 new or vastly improved airports, almost all of which will be permanently useful in civil aviation."

The assistant secretary of commerce does not weigh the need for aviation development in the customary economic manner of considering demand in the light of customers' willingness to match their demands with commensurate payments. He said that we now have 3,086 airports and, within five or ten years after the war, we will "need" double that number. How this "need" has been calculated—since demand is not gaged in the free-market sense of customers' readiness to pay for what they ask for—the secretary did not reveal.

Customer Demand Not the Guiding Motive—The purpose of the government's airport program, as Mr. Burden views it, appears to be (1) to provide a market for the plane-manufacturing industry (i.e., he says by way of an analogy that "our great automobile industry would not have been possible without a large scale aggressive program for the construction of hard surface roads"); and (2) to stimulate "the growth of private flying and air transport." Seemingly, these two objections must be accepted as ends in themselves—and are not to be scaled or in any way regulated by the

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degree of willingness of users to pay for them, as expenditures for economic goods and services are limited under a system of free enterprise. Instead, the purpose appears to be to locate the airports by bureaucratic judgment (rather than submitting to the direction of a free market) wherever it is believed that they will most effectively promote the expansion of aviation—which is simply assumed to be a desirable goal; with no question whether or not there might be other expenditures which people, free to spend as they please might consider equally or more desirable.

"While some additional large air terminals will be needed," Mr. Burden went on to say, "the Civil Aeronautics Administration emphasizes the importance of the smaller types of landing fields in any future building program. They number about 2,900 out of the total of 3,000 new fields proposed. It is our belief that if we are to have a thriving aviation industry, it must have its base in the grass roots of our country. That means first of all flying fields located within easy reach of your homes and offices, fields designed for the small private aircraft, which many of you will own or rent. It also means fields a bit larger, but still modest in size for local commercial air service to and from the thousands of small communities not now accessible by

Tax-Built Facilities for Airlines—"At the present time only 286 places in the United are approved stops on scheduled air lines and of these 174 are in need of improved airports for safe and efficient airline service. Air carrier operations are suspended at some of these places because of the unsatisfactory conditions of their airports. Under the C. A. A. plan there would be 1,827 cities with airports which could accommodate air transport operations. By air transport operations, I mean anything from charter service and small local or feeder lines to transcontinental express service, according to the travel market the area offers.

"The ultimate need* for such expansion is evident. There are already on file with the Civil Aeronautics Board in Washington applications to begin service to some 720 new points. Of these 612 are places listed in the C. A. A. plan as requiring airport construction. Scheduled airline service will not, of course, be made available to all these points in the immediate future. Local airline operation is still in the experimental stage and the Civil Aeronautics Board has very properly announced that it will approve only operations which show a justifiable expectation of success at a reasonable cost to the government. But where the demand* for service is strong enough it will be made available as aviation progresses-first perhaps by charter service and later by scheduled operations.

"The airport construction necessary to bring air transportation to these 1827 cities in the C. A. A. plan would cost approximately \$630,000,000 and the 1827 airports would also serve some 5,000 other towns within easy reach of them.

A Mere Billion Dollars—"Add to that what it would cost to spot the country with

small airports for personal flying, and the total comes to just over a billion dollars. This is a large sum but it is small in comparison with the 25 billion which this country has spent on roads in the last 25 years. Let me emphasize that there is in existence neither appropriations nor legislation establishing the machinery for such an airport program. It is merely a survey of our airport needs,* which will be submitted by the Civil Aeronautics Administration at the request of the House of Representatives.

"One way that such a program might be put into effect is proposed in legislation now before Congress. The proposal in question would appropriate to the Civil Aeronautics Administration 100 million dollars a year for the next ten years, to aid the states in constructing airports which fit into the national plan drawn up by the C. A. A. The federal contribution is not to exceed one-half the total cost. Thus, if the states match in full the federal appropriation of 100 million dollars each year, it would be possible to complete within five years the billion dollar program which will be submitted to Congress by the C. A. A.

States Invited to Get Busy Spending—"This depends, of course, on how rapidly the states set up the necessary machinery for such cooperation. According to the bill now pending, states desiring to qualify for federal aid on airports would have to establish a state airport agency, provide it with necessary funds for development and maintenance, and authorize the prevention and removal of airport hazards by zoning. The construction work would be supervised by the state agency, in accordance with C. A. A. standards, and only projects included in the national plan would be eligible for federal

"A formula is proposed for allocating funds among the states, along the lines of the federal-state highway program. The C. A. A. report has been worked out with similar considerations in mind. Complete details are not ready for all states, but let me show you how the plan would work out for two representative states. Take Massachusetts, for example. The state now has 54 airports. Under the C. A. A. plan the state would have 90. Of the 36 new sites which the C. A. A. proposes, 18 would be class 1, the smallest size, suitable for personal flying. Seventeen would be class 2, suitable for local airline operations as well as private flying. One new field would be class 4, the type necessary for through airline operations. In addition to building 36 new airports, the C. A. A. program calls for improving 10 existing fields in Massachusetts. The total cost of such a program would be just under \$30,000,000.

"Massachusetts, of course, is a highly developed industrial state. Other larger states, where the population is spread out over greater distances, may require construction of relatively more airports. Minnesota is such a state. It would have 159 fields if the C. A. A. plan were completed, as compared with 45 today."

Mr. Burden closed his address with a eulogy of "American initiative and business acumen" which, he said, "are performing miracles on the war production front." He does not seem to believe, however, that these praiseworthy qualities of free private enter-

prise are equal to the task of providing the country with sufficient airports to meet the needs of peace-time aviation.

I. C. C. Warns Truckers to Keep Prescribed Records

The Interstate Commerce Commission has advised motor carriers and brokers subject to part II of the Interstate Commerce Act that records, accounts, correspondence, and memoranda must be retained for the periods prescribed by its orders, effective July 1, 1942, regulating the preservation of such documents.

While books, financial data and working papers may lawfully be removed from carriers' places of business by public accountants for audit or similar purposes, it is expected that such records will be returned promptly, the commission pointed out. Where accountants retain possession of working papers as part of their audit procedure, copies should be held in the carriers' offices, the notice pointed out.

Judge Douglass Joins N. M. B.

Assumption recently of the active duties of his office by former Judge Frank P. Douglass of Oklahoma, has brought the National Mediation Board again to its full membership. As noted in Railway Age of



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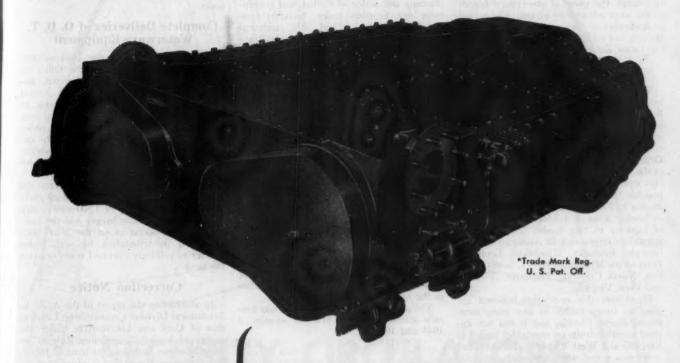
Frank P. Douglass

June 24, page 1221, his appointment to the board, following the resignation of Dr. William M. Leiserson, was somewhat unexpected, and followed evidence of a diversity of opinion in railway union circles as to whom they should support at the White House and before the Senate as successor to Dr. Leiserson.

Mr. Douglass' nomination went to the Senate on June 16 and was confirmed by that body, upon recommendation of the committee on interstate commerce, on June 21. At the time some attention was attracted to the speed with which confirmation of the appointment was obtained. Departing from more or less normal Senate practice, that body was asked by Senator Wagner, Democrat of New York and a member of the committee, to act on the appointment on the same day that the committee's favorable report was submitted. Upon his explanation that one of the two remaining board members was ill at the time, and that the board could not function unless a quorum was present, no objection was offered to imme-

^{*} Mr. Burden appears to continue using the terms "need" and "demand" in a political rather than an economic sense.—Editor.

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diate confirmation of the nomination, and the President was notified "forthwith" of

that action.

The new board member's participation in railway labor disputes as a "neutral arbitrator" made him well known to those concerned in such proceedings as far back as 1935, when he served as referee in cases involving Rock Island employees. In 1936 he filled a similar post in disputes between the Western Pacific and other roads and the conductors' and trainmen's unions. Before the Railway Labor Act was amended to change the place of emergency boards in the wage adjustment processes he served as a member of four such boards. In addition, he had served as chairman of the Textile Labor Relations Board.

I. C. C. Service Orders

The Interstate Commerce Commission has further modified the provisions of its Service Order No. 210, limiting the icing of refrigerator cars used for the shipment of fruits and vegetables from certain southern states, by Second Revised Service Order No. 210, effective July 23. The effect of the revised order is to continue the use of cars equipped for half-stage icing as far as possible for shipments of citrus fruit originating in Florida, and to apply restrictions on bunker icing or reicing to three-fourths of capacity to cars loaded with fruits or vegetables originating in Alabama, Florida, Georgia, Kentucky, Mississippi, Louisiana (east of the Mississippi river), South Carolina, North Carolina, Tennessee, Virginia and West Virginia.

Heretofore this restriction had not applied to fruits loaded in any state mentioned except Florida, and it has not applied to either fruits or vegetables loaded in Virginia and West Virginia. The modified order was issued, according to the commission, because there is an "acute shortage of ice in the South" which is affecting the movement of refrigerator cars and causing

congestion of traffic.

Service Order No. 207, restricting the holding for orders of reconsignment at points in the South of cars loaded with fruits, vegetables and melons, has been set aside by Service Order No. 207-A, effective

July 21.

Effective July 26, Service Order No. 216, prohibiting the weighing of cars of sand, gravel or aggregates for use on government construction at Dalhart, Tex., has been vacated. Service Order No. 209, authorizing the Illinois Central to reroute certain traffic because of flood conditions, also has been vacated.

Aviation Interests Plan Varied Landing Facilities

As what was termed the "first general conference of all parties interested in airport promotion and construction," a two-day Joint Airport Users Conference was sponsored by the National Aeronautic Association in Washington, D. C., this week. It was reported that 51 "aviation, business, industrial, education and government organizations" were invited to participate in the formulation of a program to "encourage local development of a vast chain of postwar aircraft landing facilities."

This program, it was explained, is de-

signed to foster two types of landing facilities, "airparks" for private flying and "air terminals" for commercial air transportation. In addition, it would provide for suitable "flight stops" or runways adjacent to highways for emergency use, and "air harbors" or facilities for planes designed to land on water.

According to the association, three ingredients are essential to the success of such a comprehensive program: (1) a public informed of the need and educated to the utility of aviation; (2) coordinated planning and action of civilian and government organizations under "aviation consumer leadership"; and (3) technical guidance and financial support from "commercial groups having an enlightened self-interest in its fruition." The landing facilities contemplated in this program, it was pointed out, "will provide the groundwork necessary to the growth of both private and commercial aviation in the postwar era."

June Ton-Miles

The volume of freight traffic, measured in ton-miles of revenue freight, handled by Class I railroads in June exceeded the same month last year by eight and one-half per cent, according to the Association of American Railroads. It amounted to approximately 63,000,000,000 ton-miles, according to preliminary estimates. Class I roads in the first six months of 1944 performed approximately 5½ per cent more revenue ton-miles of service than in the same period of 1943, 27½ per cent more than in the same period of 1942, and 154 per cent more than in the first six months of 1939.

The accompanying table summarizes tonmile statistics for the first six months of

1944 and 1943.

	1944		% In-
May June	242,748,437,000 164,000,000,000 263,000,000,000 369,748,437,000	229,820,329,000 62,146,617,000 57,968,242,000 349,935,188,000	3.0

1 Revised estimate.
2 Preliminary estimate.

"Crisis" in Big Truck Tires

Fear of an "imminent" breakdown of "America's domestic transportation system" was expressed by the American Trucking Associations last week in a statement emphasizing the effect on truck operations of the growing shortage of large size tires for civilian trucks.

Ted V. Rodgers, president of the A. T. A., was quoted as saying, "Actually, we believe, the threat of a national transportation tie-up is more acute right now than it was last December when the government took over the railroads. . . . Trucks operating long distances through open country have no spares. Trucks must not go down or our major cities will be threatened with the loss of their supply of milk, meat and vegetables. No other form of transport can handle the job. Our railroads depend upon trucks for pick-up and delivery and to clear their terminals. This is a real crisis. Some drastic and immediate action must be hard."

Spot checks throughout the country revealed 1,920 trucks pulled off the roads for lack of tires and another 2,695 about to be pulled off for the same reason, as of July 15, according to this statement. The situa-

tion was said to be worst in Illinois, although it was asserted that eight million board feet of logs could not be moved in Montana because trucks which haul them are "down."

While increased production of large tires is essential, this statement went on to say, immediate relief can be had only through making available to civilian use both a larger proportion of the current production and any part of the inventory of large tires held in this country by the armed forces that is not urgently needed for war purposes.

Complete Deliveries of O. D. T. Waterways Equipment

Early completion of the towboat and barge building program of the Office of Defense Transportation is expected, according to a statement July 24 by Ernest Holzborn, O. D. T. assistant director in charge of water transport. The final unit of the 155 steel cargo barges under order was delivered a few days previously, he explained, and the last of the 21 towboats contracted for is scheduled for delivery within 30 days.

Included in the barge program were 100 with a capacity of 9,000 barrels of oil each, and 55 with a capacity of 1,500 tons of dry cargo each. Both the barges and the towboats are in operation on the Mississippi river and its tributaries, he said, under charter to privately operated transportation

companies.

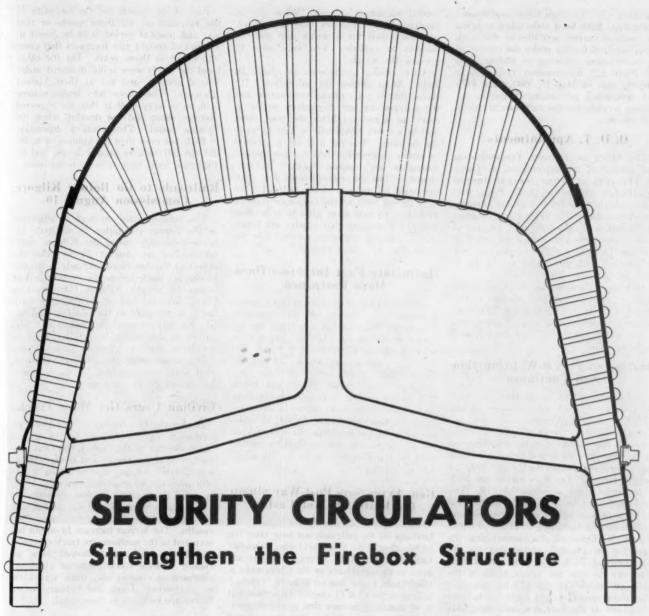
Correction Notice

In abstracting the report of the A. A. R. Mechanical Division Committee on Lubrication of Cars and Locomotives under the paragraph headed "Interchange Rule 66" on page 30 of the Railway Age issue of July 1, the erroneous impression is given that the committee recommends a mixture of 50 per cent new and 50 per cent renovated waste for journal packing with Specifications M-904, M-905, M-906 and M-910. As a matter of fact this recommendation applies only when new waste is used and then the 50 per cent of renovated waste is a minimum requirement. The exact wording of the committee's recommendation, taken from Exhibit A, Item 1, Sec. (d) of the report is as follows: "When using new waste, it is preferable to thoroughly mix it with renovated waste prior to saturating, using at least 50 per cent renovated waste in the mix."

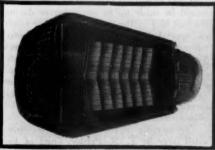
Livestock Handlers Seek I. C. C. Authorization

The Interstate Commerce Commission has been asked to authorize the Milwaukee Livestock Handling Co., a wholly owned subsidiary of the United Stockyards Corp., to acquire by lease and operate the "railroad" properties—that is, livestock unloading facilities and certain sidetracks—of the Milwaukee Stock Yards Co., and in connection with that arrangement to issue to United \$5,000 of capital stock.

At the same time the United Stockyards Corp. applied to the commission for authority to acquire direct control by stock ownership of the Milwaukee Livestock Handling Co., the Fort Worth Livestock Handling Co., and the South San Francisco Livestock



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Handling Co. Through these applications proceedings have been undertaken to bring the common carrier activities of the stock vards involved further under the control of the commission, following its finding in its Ex Parte 127 investigation (reported in Railway Age of May 17, 1941, page 857) that companies performing livestock unloading services for the railroads are common carriers.

O. D. T. Appointments

The Office of Defense Transportation has announced the appointment of James M. O'Dowda as acting regional director for Hawaii, succeeding O. R. Bean, who was recently appointed regional director for Puerto Rico. Mr. O'Dowda, a resident of Hawaii, was made assistant director of land transportation control of the Office of Civilian Defense for the territory in the summer of 1942, and joined the O. D. T. staff in October, 1943.

Montrose Gordon has been appointed chief of the research and permits section of the O. D. T. Waterways Transport Department, succeeding L. C. Turner, who is now acting director of the Inland Water-

Hearing on T. P. & W. Injunction Suit Continues

A hearing on the injunction suit filed by George P. McNear, president of the Toledo, Peoria & Western, to prevent the Federal manager from charging to the railroad the cost of certain improvements to the line, was continued this week, closing arguments being started on July 24 before Judge J. Leroy Adair in the Federal district court at Springfield, Ill. The projected work includes the laying of new rails, improvements to the communication system and the ballasting of 21 mi. of track. Edwin R. Eckersall, in summarizing the case for the plaintiff, stated that the replacement of 70-lb. rails with 100-lb. type does not fit into the future plans of the railroad, which call for 112 lb, rails, and that the proposed weight could not be used elsewhere on the road at a later date. He also stated that the testimony shows that the proposed construction in the communication system also would not fit the future plans of the road, and will result in increased expense to the corporation.

It was also pointed out that cinders for ballast are still available, and that the replacement of 21 mi. of ballast with gravel at a cost of approximately \$86,000 to the company would be wasteful expense.

He also alleged that, if after final hearing, the possession of the railroad by the government is found illegal, the corporation would have no recourse or course of action to obtain damages.

Clair Roddewig, assistant general counsel for the O. D. T., stated that any damage claim is speculative as the evidence has not proven that any irreparable injury to the name of the road or to the operation of the road will result from the proposed work. He argued that the corporation could not be familiar with problems which now confront the managers of the road, since the tonnage hauled in 1943 increased 37 per cent over that of 1942 and 41 per cent over 1941. In defending the action of the federal managers he said: "When one is handling high explosives over a railroad, you don't wait for a wreck and the explosives to explode. prevent the wreck." You take steps to

After closing arguments on July 25, Judge Adair denied the injunction. He stated that if the railroad corporation and the government find themselves unable to reach an agreement after the war, there will be a court which will be able to make the decision. "For me it is not a question of money expended or how the government managers are keeping books," he continued. "The government must pay compensation for the use of the railroad when it is turned back to the corporate owners. If I were to pass upon what is to be done today, I would say that repairs are neces-Later it might be decided that the work done was improvement.'

Intrastate Fare Increases Once More Postponed

At the request of the federal court, where litigation over orders of the Interstate Commerce Commission requiring an increase in certain intrastate passenger fares is in progress, Commissioner Porter has further postponed to August 15 the effective date of its orders in these proceedings, Nos. 28963, 29000, and 29037. The orders refer to fares in Alabama, Kentucky, and Tennessee, where state regulatory authorities had declined to order increases in the intrastate fares equivalent to the increase in interstate fares authorized by the Commission in its Ex Parte 148 proceedings.

Gen. Ayres Says Post-War Slump for Railroads Not Certain

Viewing retrospectively the upsurge of business on the railroads not long after the termination of the first world war, Brigadier General Leonard P. Ayres, economic adviser to the presidents of the Chesapeake & Ohio Lines, in the August issue of "Tracks," magazine for C. & O. employees, writes that it is unsafe to assume that a serious postwar slump is impending for the railroad industry after this war. In the last war, according to General Ayres, percentagewise, the wartime increase in ton-miles over the best of the previous peacetime records was almost as great as it has been in this war but nevertheless the expected postwar slump was small in amount and brief in duration.

The ton-miles of revenue freight of all roads carried in 1919 were about 10 per cent fewer than those of the war years, and then in 1920 new high records were made surpassing those of the war period. In the first year after the other war the ton-miles of freight traffic of the Chesapeake & Ohio declined by about 11 per cent, and the operating revenues decreased by about three per cent, but in 1920 the ton-miles made a new all-time high record, and the operating revenues were almost 25 per cent greater than in the best of the war years. The records of the Nickel Plate and the Pere Marquette were even more remarkable. Neither one had any postwar slump at all and the 1920 operations of both set records.

Part of the reason for the increases in the revenues of all three roads in that war and postwar period is to be found in a series of freight rate increases that came into effect in those years. On the other hand the roads were being operated under federal control, and not at their highest efficiency. The reason why traffic volume held up so very well is that the expected postwar slump did not develop when the fighting ended. There was a depression in 1921, but even then the volume of traffic did not fall back to prewar levels, and by 1923 new high records were being made.

Railroads to Go Before Kilgore **Commission August 10**

The subcommittee on war mobilization of the Senate committee on military affairs-commonly called the Kilgore committee-has set August 10 to hear the report of the American railroads in answer to charges made before the committee last winter by Senator Kilgore (Democrat of West Virginia) and others that they have not been receptive to the adoption and use of new technological developments, nature of this report was indicated in an article in Railway Age of June 3, page 1078, summarizing the detailed statement filed with the committee by the railroads in advance of the hearing.

Civilian Users Get More Trucks

During the first five months of 1944, according to figures released by the United States Bureau of the Census, the total production of motor trucks and truck tractors was 284,057, an increase of about 8 per cent over the same period in 1943. However, of this number 26,669 medium and heavy trucks were allotted for civilian use, as compared to 1,167 in the same 1943 months. The largest increase in output has occurred in the medium size truck category, and heavy trucks also showed some increase. In light trucks, none of which are allocated to civilian use, there was a cut in production. Jeeps and military ambulances are included in these totals.

Bus Building Below Schedule

Production of buses of all types during the first half of 1944 fell below schedule. according to War Production Board figures released last week at a meeting of the Bus Manufacturers Industry Advisory Committee. Production of 7,000 so-called integral type buses (those with body and chassis in one unit) and 10,000 body-on-chassis type was programmed for the year by the W. P. B., but production in the first six months was 1,824 integral type and 2,200 body-on-chassis type.

It was explained that this production lag would be made up to some degree during the last half of the year, through the effect of "special directive treatment" in the procurement of components. Manufacturers forecast a production of 11,500 integral buses in 1945, and the W. P. B. has approved a program for the various claimant agencies calling for 10,392 of this type. Such forecasts, however, are subject to war developments, it was emphasized.

The meeting of the committee was presided over by E. S. Perdoe, chief of the



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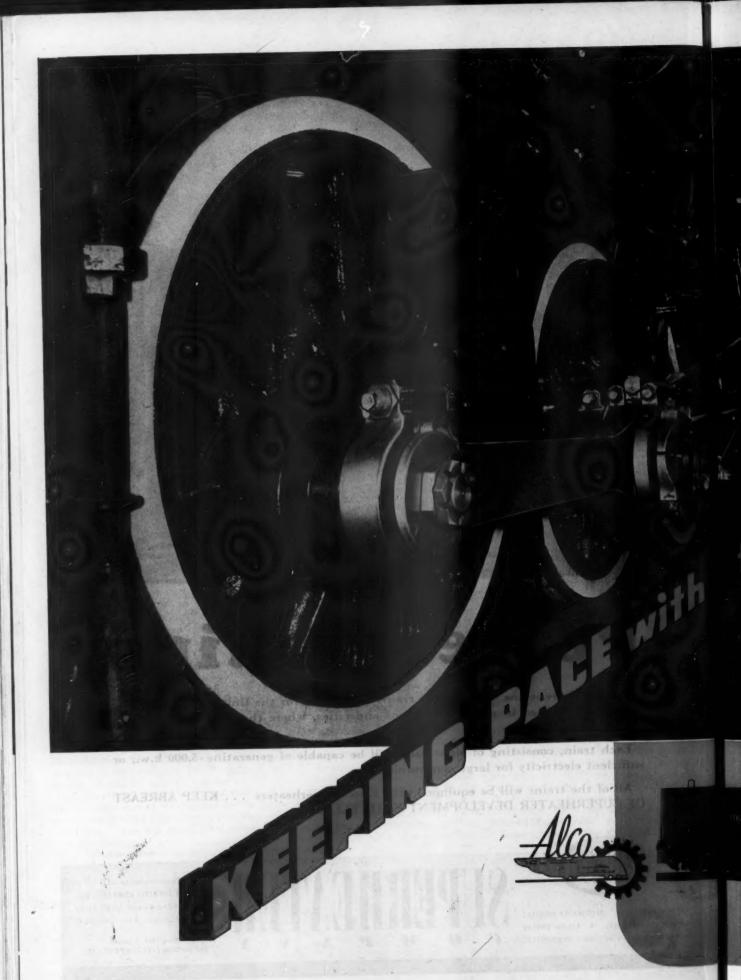
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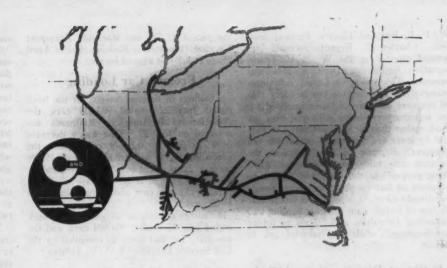
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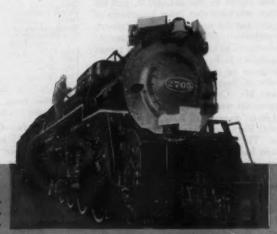


lco, recently, completed the delivery of forty (40) of these highpowered, high-speed, heavy tonnage locomotives to the Chesapeake & Ohio.

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AMERICAN LOCOMOTIVE

MANUFACTURERS OF MOBILE POWER

STRAM DIESEL AND ELECTRIC LOCOMOTIVES, MARINE DIESELS, TANES, GUN CARRIAGES & OTHER ORDINANCE

W. P. B. Bus and Electric Railway Section. Charles B. Bryant, recently appointed director of the W. P. B. Transportation Equipment Division, also was present. Discussion in the committee brought out the view of bus builders that 90 per cent or more of buses intended for use in cities were being delivered over the road, rather than by rail, and that box cars and flat cars are difficult to obtain for rail shipment. Because of this situation, the meeting was told, buses have to stand "long periods" in the open and subject to exposure at factory shipping points, awaiting freight cars. It also was asserted that the use of freight cars presents loading and unloading difficulties and "tends to injure bus bearings" while the vehicles are in transit.

Antitrust Division Says Allied Van Violates Laws

Vigorous objection to the recommendation of Examiner W. T. Croft that the Interstate Commerce Commission issue to Allied Van Lines, Inc., certificates authorizing operations as a motor vehicle common carrier of household goods over irregular routes between substantially all points in the United States has been lodged with the commission by the Department of Justice.

The examiner's findings noted in Railway Age of June 24, page 1220, appeared in his proposed report in No. MC-15735, and the objection was filed with other exceptions of interested parties to the examiner's report, the conclusion of which was contrary to that contained in an earlier proposed report by Examiner B. Freidson.

The basis of the exceptions of the Department of Justice was its disposition to question Mr. Croft's finding that certain arrangements made early this year had resulted in a "divorce" of Allied Van and the National Furniture Warehousemen's Association. The department went on to explain that suit had been instituted in the federal district court in Illinois by the United States, alleging violations of the antitrust statutes by Allied Van and the association. Subsequent to January 11, when this suit was filed, it said, the defendants had taken certain steps which were asserted to have corrected the circumstances on which the allegations were based, but these actions were not considered sufficient by the department to accomplish compliance with the

"This proceeding," said the Antitrust Division of the case before the commission, "is of unusual importance because the examiner's report recommends that applicant be granted 'grandfather' authority in 40 states and the District of Columbia and authority based on a showing of public convenience and necessity between all points in the United States, notwithstanding the fact that the record discloses that the applicant's operation violates and will continue to violate both the Interstate Commerce Act and the antitrust laws.

"The record also discloses that applicant is not a carrier and is not the real party in interest," but is "merely the creature of the National Furniture Warehousemen's Association," and the association's status was fixed by the ruling of the Supreme Court in

the recent U. S. vs. Marshall Transport Co. case (reported in Railway Age of April 29, page 830), it argued further.

Freight Car Loading

Loadings of revenue freight for the week ended July 22 totaled 903,034 cars, the Association of American Railroads announced on July 27. This was a decrease of 1,770 cars or 0.2 per cent, under the preceding week, but an increase of 19,196 cars, or 2.2 per cent over the corresponding week last year, and an increase of 47,519 cars, or 5.6 per cent above the comparable 1942 week.

Loadings of revenue freight for the week ended July 15 totaled 904,804 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week	Ended S	aturday, July	15
District Eastern Allegheny Pocahontas Southern Northwestern Central Western Southwestern	1944 163,367 198,882 57,641 125,488 140,195 142,220 77,011	1943 166,173 185,188 57,770 115,663 145,221 133,171 74,149	1942 157,428 185,896 56,049 118,409 141,982 127,875 69,507
Total Western Districts	359,426	352,541	339,364
Total All Roads	904,804	877,335	857,146
Commodities Grain and Grain Products Live Stock Coal Coke Forest Products Ore Merchandise l.c.l. Miscellaneous	62,536 14,576 180,738 14,249 48,523 86,729 101,302 396,151	62,504 13,941 176,249 12,720 46,249 89,671 97,840 378,161	51,606 9,570 163,630 13,415 53,493 92,249 87,367 385,816
July 15 July 8 July 1 June 24 June 17	904,804 745,141 897,800 881,267 879,161	877,335 808,630 852,082 760,930 868,286	857,146 855,158 753,740 853,418 844,913

Cumulative Total,

29 Weeks ...23,599,139 22,638,515 23,529,445

In Canada.—Carloadings for the week ended July 15 totaled 70,691 as compared with 71,405 for the preceding week and 67,580 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada:	Cars	Total Cars Rec'd from Connect'ns
July 15, 1944 July 8, 1944 July 1, 1944 July 17, 1943	70,691 71,405 63,531 67,580	36,880
Cumulative totals for Canada: July 15, 1944	.783.062	1,094,671 1,106,177 923,032

Overrunning Clearance Point Leads to Collision

A side collision between two Atchison, Topeka & Santa Fe passenger trains at Hamlet, Colo., on June 19 was caused by one train, which was on a siding, fouling the main track while the other was passing, according to a report of an investigation conducted by the Interstate Commerce Commission under the direction of Chairman Patterson. The report pointed out that there was no sign or mark to indicate the clearance point at the west end of the siding. If a distinctive sign had been provided, the engineer of the train on the siding "would have been aware of his location with respect to the clearance point.

and this accident would have been averted."

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Two passengers were killed and 58 passengers and 5 employees were injured in the collision, which occurred in clear weather at 3:44 a.m. on practically level, tangent, single track, where train operations are governed by timetable, train orders, and an automatic block signal system. The trains involved were No. 14, eastbound from Pueblo, Colo., to La Junta, which was moving on the main track at a speed of 28 m.p.h., and No. 13, moving westbound at a speed of about 4 m.p.h. on the siding at Hamlet, which it had entered as required by a train order directing the two trains to meet at that point.

Train No. 14 consisted of 10 cars of steel construction. The eighth car was struck in the side by the engine of No. 13 when the trains collided, and the ninth car and the front truck of the last car were de-These three cars were coaches. railed. The eighth and tenth cars were slightly damaged, while the right side of the ninth car was destroyed and it was otherwise badly damaged. The locomotive of No. 13 was somewhat damaged, but neither it nor any of the ten cars in that train were derailed. No. 14 was brought to a stop when the brakes became automatically applied when the train parted between the fourth and fifth cars as a result of the accident.

The last automatic signal passed by No. 14 had displayed proceed, and the engineer of No. 13 by extinguishing his headlight had indicated that his train was in the clear on the siding. As No. 14 was passing, No. 13 was moving ahead slowly on the siding. Because the enginemen on No. 13 "misjudged" the location of the clearance point, the report explained, they allowed their engine to enter the turnout at the west end of the siding, after which there was not sufficient time for the brakes to become effective before the main track was fouled, although the engineer mooved the braked valve to emergency position.

Commission Ends Truckers' Rugs and Matting Case

Finding, on reconsideration, that the proceedings have been made moot by actions taken by the carriers concerned, the Interstate Commerce Commission has ordered its consolidated I. & S. Nos. M-1216 and M-1445 proceedings discontinued. These cases, dealing with certain motor carrier rates on rugs and matting from the East to Western Trunk-Line Territory, involved the propriety of a finding by Division 3, adopted by the full commission, that truck rates based on a 30,000 lb. minimum were unjust and unreasonable because a shipment of that weight could not be handled in one vehicle.

The carriers sought court action to have the commission's order making this finding effective set aside. Upon appeal, the case reached the Supreme Court as Eastern-Central Motor Carriers Association vs. U. S., and that court remanded the case back to the commission, as noted in Railway Age of February 12, page 364, for "further explication."

The commission's policy condemning motor carrier volume minimum weights "unless it is shown clearly that the motor carriers can transport the traffic at the volume minimum weights at costs per 100 lb. which are less than the costs incurred at a reasonable truckload minimum weight" was "condemned" by the Supreme Court, the commission said, on the ground that the record was insufficient for it to understand the basis for its formulation.

When, following this court action, the commission reopened the proceedings in order to develop such a record, it was informed by the carriers that they no longer desired to maintain rates on the 30,000 lb. basis, as circumstances had so changed that, in their "managerial discretion," they no longer wished to meet the railroad minimum

weight provisions.

In finding the case moot for that reason, the commission pointed out that "there are numerous rates maintained by motor common carriers subject to minimum weights higher than can be transported in a single motor vehicle, but we cannot deal with such rates except in the event of a complaint against them or the institution of a general investigation. We are not warranted, at this time, in entering into a general investigation of these rates and minimum weights."

Representation of Employees

The boilermakers and their helpers and apprentices of the Louisville & Nashville have retained the International Brotherhood of Boilermakers, Iron Ship Builders & Helpers of America, affiliated with the American Federation of Labor Railway Employees' Department, as their representative for the purposes of the Railway Labor Act as the result of a vote conducted under National Mediation Board procedures. The right of this union to represent these employees had been challenged by the Brotherhood of Railroad Shop Crafts of America, but the latter union lost the election by a 514 to 242 vote.

Another A. F. of L. affiliate, the International Brotherhood of Blacksmith, Drop Forgers & Helpers, having challenged the right of the Brotherhood of Railroad Shop Crafts of America to represent the Louisville & Nashville's blacksmiths and their helpers and apprentices, an election was held under N. M. B. procedures which resulted in the latter union winning by a

vote of 162 to 106.

The marine engineers of the Central of New Jersey have voted 18 to 13 to retain as their representative the National Marine Engineers Beneficial Association over the challenge of the Railroad Division, Inland-boatmen's Union, Port of New York. An election by the car repairmen and car repair inspectors of the South Buffalo did not result in the certification of any union as their representative, as none received a majority of the votes cast.

Yardmasters of the Union Belt of Detroit (Mich.), not previously represented, have selected the Railroad Yardmasters of America to represent them. By negotiation with the carrier, the National Maritime Union of America, C. I. O., has succeeded the Seafarer's International Union of America, A. F. of L., as representative of the unlicensed personnel of the deck, engine and stewards' departments of Grand Trunk Western car ferries on the Great Lakes, the N. M. B. has been advised.

The National Mediation Board has announced also that an election will be held for the motormen, freight and passenger, including Diesel and steam locomotive engineers, and one-man electric car operators of the Pacific Electric, as one class or craft, and the same road's steam locomotive firemen, including helpers on Diesel locomotives but not trolleymen, as another, to select their representatives. This action follows an investigation of a jurisdictional dispute between the Brotherhood of Locomotive Engineers and the Brotherhood of Railroad Trainmen.

Employees in the classes named have been represented by the latter union for a "considerable number of years," the board found, and they have been covered by a single contract that also applies to conductors, brakemen, trolleymen, motor coach operators, and other employees. The B. of L. E. had contended that representation of the road's employees should be determined on a craft or class basis and that all classes of employees covered by the rival union's agreement should not vote as a unit. The B. of R. T. during the investigation modified its contrary position to some extent, but still contended that, if separate classes should be established by the board, they should include employees in categories not finally incorporated in the classes for which elections have been ordered.

Northwest Board Meeting

The Northwest Shippers Advisory Board held its seventieth regular meeting at Duluth, Minn., on July 20. It was anticipated that some difficulty will be encountered in the movement of this year's grain crop due to labor and car shortages. Ralph E. Clark, manager of the Closed Car section of the Association of American Railroads, was the speaker at a luncheon meeting, his subject being, "Railroads Backing the Attack."

Transport Policies Adopted by C. of C.

(Continued from page 211)

government was contemplated. Because relatively few airports are specialized for use by airlines only, as "in the vast majority of cases" they must be prepared to serve unorganized private flyers and "casual" commercial flyers as well, it would be "impracticable," the committee held, to require owners and operators of airplanes to provide their own landing facilities.

While privately owned airports have their place, and should be fostered, it said, they cannot be depended on to meet all "needs," and airports must therefore be financed largely by public authority. But the committee said it would follow "the same broad principle applied in the case of railways and highways, which in their development period received substantial government assistance of one kind or another," and thus advocated that publicly-owned airports should be put on a "self-sustaining" basis as soon as possible.

A "Make-Work" Program — Eleven propositions were suggested by the committee as a Chamber policy with respect to a federal-aid system of financing airports "to replace the recent trend toward

financing of airport construction mainly by the federal government." In general, the matching system applied to federal appropriations for highways was taken as a guide. All of the recommendations were adopted in the referendum, but considerable opposition was registered with respect to that one which read, "A major part of such a program should be reserved for periods of low business activity." On this the vote was 1,443 to 457, showing, the Chamber said, that "a substantial number of organizations felt it unwise to delay competition of the airport program for the purpose of coordinating a part of the construction program with low points in the business cycle."

C. N. J. Shifts Fast Trains to Outside Rails

To insure greater passenger safety, the Central Railroad of New Jersey, on July 21, shifted to the outside tracks its fast trains in the four-track Jersey City-Raritan mainline territory. Because of the large number of trains operated during commuter hours, some passenger trains must still be run on inside tracks.

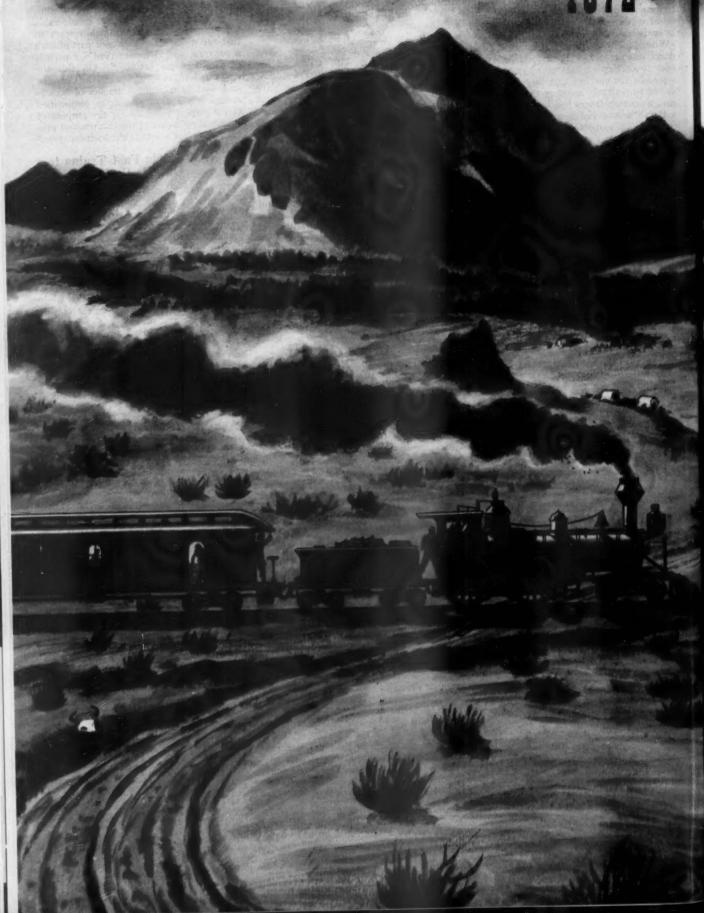
"Our passenger trains generally have been running on the inside tracks while the freight trains have been on the outside tracks which are, of course, those nearest our passenger stations," explained E. T. Moore, general manager. "By putting passenger trains on these outside tracks and shifting freights to inside rails, we prevent the possibility of a freight train making a mistake and cutting between a passenger train and a station while passengers are getting on and off."

The switch to outside tracks is effective immediately for all eastbound trains, and will be extended to westbound trains within a few months.

Tells Truckers to Keep Records

The Office of Defense Transportation has warned commercial motor vehicle operators that records of miles traveled, motor fuel used, and tire inspections must be kept for periodic inspection by O. D. T. representatives, even though the distribution of O. D. T. forms 17 and 17-a, formerly required for such reports, has been discontinued. Common carriers and certain other truckers are still required to file monthly operating reports, however, it was explained.

RED MEN IN TRACK WORK .- The current Katy Magazine reports that the M. K. T.'s Southern district forces, literally having "beaten the bushes" in search of sufficient labor for laying the heavy steel track in the road's present rebuilding program, finally appealed to the Indians in the territory along its lines. Especially in Oklahoma did this search prove successful, and many Indians hitherto unaccustomed to heavy physical labor are now "making good hands." A glance at the payroll reveals Sapsucker Mouse, John Lee on the Hill, Leaf Leaf, Tin Cup Six, Watt Hogshootem, Dave Creek Killer, Blue Six, Ben Raven, John Money, Henry Chunestudy, George Suulateshee, Hugh Goingsnake and George Bigfeather.



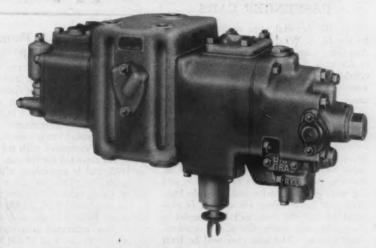
with an "Automatic Brakeman" on every car

Early trains needed a brakeman on every car. The Westinghouse "Automatic" Brake, introduced only three years after the first model appeared, put one there—to stay!

Installation of a Triple Valve and reservoir gave each car its own braking power and eliminated runaways when trains broke in two . . . an occurrence that was all too frequent in those early times. Crude by present standards, this automatic brake was the direct ancestor of the brake you depend on today. No change has been made in basic principles. And through all the stages of evolution, each new improvement has functioned interchangeably in combination with earlier models . . . a remarkable engineering achievement.

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TO PERMIT TODAY'S TRAINS TO

MOVE AT SHORTER INTERVALS

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SPEEDS—SAFELY.

For a vivid picture of the progress in these 75 years . . . consider the Electro-Pneumatic HSC Equipment. Brakes respond instantly and sensitively throughout the train. The highest practicable rates of retardation are maintained by a speed governor which automatically proportions braking pressure to speed. Means may also be incorporated to prevent wheel sliding when rail adhesion is subnormal or spotty. Westinghouse Braking Equipment is always abreast of transportation needs.

Equipment and Supplies

Brazilian Railway Plans Improvements

Improvements planned for the Paulista Railway which operates in the State of Sao Paulo, Brazil, include the purchase of 500 new freight cars and 12 new electric locomotives, according to the Department of Commerce. (The railway was reported in the market for 500 42-metric-ton box cars in the Railway Age of March 18.) The plans provide for doubling the main line on one section of 19 miles and installation of 111-lb. rails. Another section of 23 miles is to be widened and two sections of 19 and 41 miles, respectively, are to be electrified. New tools are to be purchased for shop work and the tracks on one section of the line are to be welded.

LOCOMOTIVES

The Consolidated Railroads of Cuba has ordered 1θ steam locomotives of 2-8-2 wheel arrangement from the American Locomotive Company. The inquiry for this equipment was reported in the Railway Age of April 29.

The CHICAGO, BURLINGTON & QUINCY has ordered 50 1,000 hp. Diesel-electric switching locomotives from the Baldwin Locomotive Works.

FREIGHT CARS

The Wabash is inquiring for material for 600 50-ton new gondola bodies for existing trucks.

PASSENGER CARS

The 100 hospital cars recently ordered by the U. S. WAR DEPARTMENT from the American Car & Foundry Co. (reported in Railway Age of June 10) will provide comfortable space for 36 patients, 30 for wounded and six for mental and shock There are to be two roomettes in each car for the medical staff, two toilets and a shower bath, and a complete kitchen equipped with a cooking range, refrigerator, sterilizer and ample closet space for storing provisions. The reception room on each car is provided with 4 ft. doors so that patients can be moved in and out with comfort and speed. Ample baggage and locker space for storage is also provided and the cars will be completely air-conditioned, using the a.c.f. ice-activated system. The new cars will be built at the a.c.f. St. Charles, Mo., plant, which is also reconverting 118 of the old hospital cars.

SIGNALING

The RICHMOND, FREDERICKSBURG & PO-TOMAC has placed an order with the Union Switch & Signal Co. covering ten sets of three-indication cab signal and speed control equipment for installation on ten new locomotives which are being built by the Baldwin Locomotive Works. This control equipment is similar to that now in service and will be operated in the train control territory between Richmond, Va., and Washington, D. C.

The Kansas City Southern has placed a contract with the General Railway Signal Company for materials covering the installation of absolute permissive block signaling between Joplin and McElhaney, Mo., a distance of 36 miles. Equipment ordered includes 46 type SC signals, 30 welded steel instrument cases, 19 transformers, 46 rectifiers, 12 type K relays, 111 type B relays, and necessary items to complete the installation.

The Boston & Albany has placed an order with the General Railway Signal Company for control machines to be added to the existing all-relay interlocking plants at Brookline Junction, Boston, Mass., and West Pittsfield, Mass.

The Canadian Pacific has contracted with the General Railway Signal Company to furnish materials and labor to install absolute permissive block signaling on 36 miles of single track between Medicine Hat and Suffield, Alberta, Canada. Materials ordered include 118 type K relays, 35 type SA high signals and one type SA dwarf signal, two train order signals, eight switch indicators, and 19 switch circuit controllers.

The Electro-Motive Corporation has placed a contract with the General Railway Signal Company to supply eight intermittent inductive train control equipments for installation on Southern Diesel-electric locomotives.

Supply Trade

American Car & Foundry Co. Annual Report

The forty-fifth annual report of American Car & Foundry Co. and its whollyowned subsidiaries for the fiscal year ended April 30, 1944, shows net earnings of \$5,591,832, after all charges including interest, depreciation, amortization, and provision for estimated income and excess profits This compares with net earnings of \$5,055,719 reported for the year ended April 30, 1943, and is equivalent, after preferred dividends, to \$5.95 per share of common stock. Gross sales aggregated \$218,834,838, as compared with \$289,275,689 with preceding year. Federal income and excess profits taxes, less estimated post-war credits on excess profits taxes of \$1,684,530, are estimated at \$17,427,770, compared with \$25,-374,902, after estimated post-war credits on excess profits taxes of \$2,500,000, in 1943. Unfilled orders at April 30 approximated \$190,000,000 and had increased to about \$218,000,000 by July. Current assets totaled \$138,077,007 and current liabilities \$104,-452,142, as compared with current assets of \$169,235,788 and current liabilities of \$144,-362,272 in 1943.

Charles J. Hardy, president, in his letter

to the stockholders, says that in line with the policy of writing off the cost of facilities adapted only to the production of combat and other material needed for war purposes, there was amortized as of April 30. 1944, a total of \$11,340,989 of the entire \$13,343,832 expended for such extension of plant facilities. "During the year just closed the activities of the company, as a maker both of materiel of war and of railroad equipment and supplies, have continued unabated-with, however, the curtailment of the government's need for the light military combat tanks. In the production of such tanks the company was the pioneer and up to April last it produced more then fifteen thousand of them." Mr. Hardy said that while there had been some "cut-backs" in the company's scheduled deliveries of certain materiel, this in considerable part was compensated for by increases in and additions to other schedules.

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George J. Diver has been appointed vice-president of Morrison Metalweld Process, Inc., subsidiary of the Morrison Railway Supply Corporation. Mr. Diver began his career in the superintendent's office of the Peoria & Eastern in 1900. He



George J. Diver

subsequently was employed with the Big Four and with the Lake Erie & Western, where he was freight claim investigator. He joined the Interstate Car Company of Indianapolis, Ind., in 1905 and served as general manager from 1919 to 1924. When the Interstate Car & Foundry Co. was organized in 1925, he was elected president and general manager. He joined Morrison Metalweld Process in 1929, handling sales and operations in the western district. He was transferred to Buffalo, N. Y., in a similar capacity in April, 1941.

The **Heywood-Wakefield Company** was awarded the Army-Navy "E" for the third time for continued excellence in the production of war material on July 22.

The **Ex-Cell-O Corporation** is observing its Silver Jubilee this month. The company is distributing an institutional booklet, The First 25 Years, portraying its history and an indication of its future.

Robert L. Koeppen, who has been with the Timken-Detroit Axle Company for 25 years, has been appointed regional field service representative for Timken in California, Arizona and New Mexico to succeed the late Herman F. Zarnikau, who died on June 1. Mr. Koeppen had been assigned to the southwest region from 1939 to 1941, when he returned to the factory in Detroit, Mich., to handle special service assignments to further the war effort.

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H. G. Mastin, service engineer of the Dearborn Chemical Company, has been promoted to district sales manager of the Eastern district with headquarters in New York.

The Pacific Railway Equipment Company has changed its name to Preco, Inc. No change in the management or business of the company is involved.

William Balderston, formerly vicepresident in charge of the commercial division, has been elected vice-president in charge of operations and a member of the executive committee of the Philco Corporation.

Howard P. DeVilbiss, vice-president, has been elected president and general manager of the DeVilbiss Company, Toledo, Ohio, to succeed Allen D. Gutchess, who has been elected chairman of the board and active senior executive. Mr. Gutchess succeeds W. M. Booker, who will continue as a member of the board. Frank A. Bailey, vice-president and general manager, who has been with the company for 34 years, has retired. Don J. Peeps, of the engineering staff, has been appointed acting chief engineer.

The Briggs Clarifier Company has appointed the following zone managers and distributors: Thomas W. McKinley, service engineer with the company since August, 1941, has been appointed southeastern zone manager with headquarters in Atlanta, Ga., covering all states south of Maryland and east of West Virginia, Tennessee and Mississippi. Donn Murphy has been appointed southwestern zone manager with headquarters in Dallas, Tex., covering Texas, Oklahoma, Kansas, Missouri, Arkansas, and Louisiana. Prior to his appointment Mr. Murphy was engaged in industrial sales work as a member of the firm of M & M industrial Supplies, Dallas, Tex. A. H. Martin has been appointed western zone manager with headquarters in San Francisco, Calif. Prior to his appointment Mr. Martin worked for three years with western distributors as sales and service engineer for the company. The W. P. Childs Machinery Company, Atlanta, Ga., has been appointed distributor for western Tennessee and north and central Georgia; the Pate Supply Company, Birmingham, Ala., distributor for Alabama; and the Sullivan-Mears Company, Kansas City, Mo., distributor for Kansas and Missouri.

OBITUARY

Edmund H. Lunken, chairman of the board of the Lunkenheimer Company, Cincinnati, Ohio, died July 19. He was 83 years of age. Mr. Lunken was the son of Frederick Lunkenheimer, who founded the Lunkenheimer Company in 1862. He entered the business at the age of 16 and assumed leadership of the company upon the death of his father in 1889.

Construction.

ATCHISON, TOPEKA & SANTA FE.—This road has applied to the Interstate Commerce Commission for authority to build a 2.02-mile extension of its line now serving the Wilmington section of Los Angeles, Calif., to give it access to the port of Long Beach, Calif.

ATLANTIC COAST LINE.—In connection with a project for relocating its line at Gainesville, Fla., this road has been authorized by Division 4 of the Interstate Commerce Commission to construct two connecting tracks, 0.16 and 0.57 mile in length, respectively, between its existing line and a line of the Jacksonville, Gainesville & Gulf which it has been authorized to acquire. The work is estimated to cost \$32,500, and is expected to be completed by December 1.

ATCHISON, TOPEKA & SANTA FE.—This road has awarded a contract to the Swinerton & Walberg Construction Company, Los Angeles, Calif., for the construction at Barstow, Calif., of a Diesel engine service building to measure 138 ft. by 325 ft., with the following specifications: steel frame on a concrete foundation; glass and corrugated Transite sides and roof; concrete Diesel pits; servicing platforms inside the building; frame building over the wheel pits; concrete repair track pit, transfer pit and truck pits; concrete distilled water house and equipment; and a washing and fueling platform. The grading and excavation contract has been awarded to the Morrison Knudsen Company, Los Angeles.

ILLINOIS CENTRAL.—This company's subsidiary, the Chicago, St. Louis & New Orleans, has been authorized by Division 4 of the Interstate Commerce Commission to construct a 4.6-mile branch from Greenville, Ky., to connect with industrial tracks of the Beech Creek Mining Co. Work is to be completed on the extension by April 1, 1945. The line is to cost about \$187,000.

WAR DEPARTMENT.—The U. S. Engineer office, Norfolk, Va., has awarded a contract, amounting to \$31,593, to the Sutton Company, Inc., Radford, Va., for the construction of additional road and railroad facilities in Virginia.

"THIS WAR IS A FAMILY AFFAIR" suggests an Illinois Central advertisement now appearing in newspapers along its lines. Pointing out that railroading is a tradition, 'an honored occupation among families. friends and neighbors," and one which often has been "in the family" for four or five generations, the I. C. observes, that of its 43,000 employees, 8,281 have gone to war. "This makes the war a family affair for all of us," the message reads, and adds that 'until it is won, our main concern is victory. After that, all we have learned in the war years will be turned to account in improving Illinois Central service." For, remarks the railroad, "We want to keep on earning your good will."

Financial

BALTIMORE & OHIO.-To Meet Note Maturity .- On July 19, Roy B. White, president, announced that arrangements had been completed to pay the publicly held secured notes of the company amounting to \$19,000,000 which mature on August 1 with sinking funds and proceeds of a bank loan of \$7,500,000, payable May 15, 1945, which has been negotiated at 0.75 per cent. The Reconstruction Finance Corporation. which holds the remaining \$13,490,000 of the notes, originally issued in the amount of \$50,000,000, has agreed to extend its With the August 1 payment, the railroad will have redeemed approximately \$90,000,000 of its \$100,000,000 debt reduction goal under the 1938 plan for modification of interest charges and maturities.

CHICAGO & NORTH WESTERN.—R. F. C. Debt Reduced.—Secretary of Commerce Jesse H. Jones has announced that this company on July 25 paid the Reconstruction Finance Corporation \$23,038,720, including interest, on its indebtedness to the corporation. Of the total amount loaned to this road, \$46,588,133, the balance outstanding is now \$24,855,000, he said. (Previous item in Railway Age of July 22, page 177.)

CHESAPEAKE & OHIO .- Equipment Trust Certificates .- Division 4 of the Interstate Commerce Commission has authorized this company to assume liability for \$2,500,000 of 134 per cent serial second equipment trust of 1944 certificates, sold at 100.0875 to Halsey Stuart & Co. in connection with the purchase, at a total cost of \$3,213,850, of 1,250 50-ton all-steel hopper cars (previous item in Railway Age of July 22, page 177). In its report, the division pointed out that this road has made a net reduction in publicly held debt of \$39,275,000 during the past seven years, that in the past six months it has expended \$9,630,000 cash for new equipment in addition to \$1,294,000 to be paid out on equipment purchased under new equipment trust arrangements already approved, and that a further expenditure of \$3,480,000 in cash will soon be required in connection with the purchase of additional equipment to cost about \$14,-

CINCINNATI UNION TERMINAL. financing.—This company has applied to the Interstate Commerce Commission for authority to issue \$24,000,000 of 23/4 per cent series G first mortgage bonds to replace an equal principal amount of 31/2 per cent series D first mortgage bonds, which it proposes to call at 106. The new issue is to be dated August 1, 1944, and mature in 30 years, subject to earlier call at a premium varying with the date. Joining in the application as guarantors were the seven proprietary roads: Baltimore Ohio; Chesapeake & Ohio; Cincinnati, New Orleans & Texas Pacific; Cleveland, Cincinnati, Chicago & St. Louis; Louisville & Nashville; Norfolk & Western; and Pennsylvania.

INTERSTATE. — Promissory Notes. — Division 4 of the Interstate Commerce Commission has authorized this road to issue

\$1,000,000 of 21/4 per cent serial promissory notes which have not been offered at competitive bidding but are to be delivered at par to J. P. Morgan & Company in connection with financing the construction by the Norfolk & Western, on trucks supplied by the Interstate from cars retired, of 1.000 50-ton all-steel hopper cars at an estimated cost of \$1,700,000.

KANSAS CITY TERMINAL .- Refinancing. -This company has applied to the Interstate Commerce Commission for authority to issue \$47,000,000 of 30-year serial first mortgage bonds at an interest rate to be determined by sale at par by competitive bidding. The proceeds, with other funds, wuold be used to retire \$49,121,000 of 4 per cent first mortgage gold bonds outstanding. Joining in the application as guarantors were 11 proprietary roads, the Atchison, Topeka & Santa Fe; Chicago, Burlington & Quincy; Chicago Great Western; Chicago, Milwaukee, St. Paul & Pacific; Chicago, Rock Island & Pacific; Kansas City Southern; Missouri-Kansas-Texas: Missouri Pacific; St. Louis-San Francisco: Union Pacific; and Wabash. The application indicated that these roads' liability would be adjusted to the extent that the Altn, through a separate agreement to be negotiated, becomes obligated for rental payments for its use of the terminal.

NEW YORK, CHICAGO & St. LOUIS .-Equipment Trust Certificates .- This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for \$2,100,000 of 1% per cent second equipment trust certificates of 1944, sold at 99.882 to the Cleveland Trust Co., in connection with the purchase, at a total cost of \$2,684,207, of 25 70-ton allsteel covered hopper cars and 15 2-8-4 type freight locomotives.

NEW YORK, SUSQUEHANNA & WESTERN. Tax Reassessment Ordered .- On July 21 the New Jersey supreme court set aside the 1943 franchise tax assessment levied on the New York, Susquehanna & Western by the state tax commission, and upheld the state board of tax appeals, and ordered a reassessment. The court held that both agencies were wrong in not allowing the railroad to deduct from net railway operating income, on which the tax is based, \$75,367 for depreciation on road and structures and \$198,679 claimed as railway tax accruals.

RUTLAND.—Trustees.—Division 4 of the Interstate Commerce Commission has ratified the appointment of William E. Navin and Wallace M. Fay as trustees of this road during reorganization.

St. Louis Southwestern. - Interest Payment.—Semi-annual interest payments on bonds will be made on or after August Payments include interest due January 1 and July 1 on the second mortgage income bond certificates due in 1989, and those due on January 1 and July 1 for 1941, 1942 and 1943, and January 1, 1944 on the first terminal and unifying mortgage bonds due 1952. The remainder of interest due July 1, 1937 and all the interest due January 1 and July 1, 1938 on the general and refunding mortgage five per cent bonds, series A due in 1990, will be paid at the rate of \$10 per \$1000 principal amount and

\$5 per \$500 principal amount in the case of the installment due July 1, 1937, and at the amount specified in the case of the installments due January 1 and July 1, 1938.

SEABOARD AIR LINE.—Reorganization of Lessor Road.-The Georgia, Florida & Alabama, the property of which is operated under lease by the Seaboard Air Line, has filed with the Interstate Commerce Commission its petition to the federal district court for reorganization under the terms of section 77 of the Bankruptcy Act.

TOLEDO, PEORIA & WESTERN.-Notes .-In a proposed report Examiner H. -C. Howard has recommended that the Interstate Commerce Commission deny an application made by this company through George P. McNear, Jr., its president, for authority to issue \$100,000 of 3 per cent notes, series A, to mature in 5 years, to provide additional working capital. When the road was taken over for operation by the Office of Defense Transportation, its cash working capital and other assets were included, leaving the company without funds except certain advances made by the O. D. T. and bank loans obtained, the examiner reported. The proceeds of the proposed note issue would be disbursed as follows: Salary of president, \$33,000; other salaries, \$23,000; miscellaneous expenses, \$7,500; emergency and reserve balance, \$21,500; interest on series A notes, \$15,000.

The examiner's recommendation was based on his finding (1) that, since the company is not at present an operating carrier, the proposed issue is not necessary for the operation of the road in the service of the public, and (2) that no showing has been made that there are or will be revenues available from which either the interest or principal requirements of the notes can be met. The latter point, he observed, was "tacitly" admitted by the applicants when it provided that interest payments on the issue be made from the proceeds of the loan.

WHEELING & LAKE ERIE. - Awards Equipment Trust .- On July 19 the Wheeling & Lake Erie awarded, subject to Interstate Commerce approval, a \$1,140,000 issue of equipment trust certificates to Halsey Stuart & Co. of Chicago, on a bid of 99.13, a net annual interest cost basis to the company of 1.666 per cent. The certificates will be dated August 1, 1944, and will mature semi-annually from February 1. 1945, to 1954. The issue was reoffered to the public at prices to yield from 0.70 to 1.825, according to coupons and maturi-(Previous item in Railway Age of July 22, page 179.)

Average Prices Stocks and Bonds

- Marian an anthorian	July 25	Last week	Last
Average price of 20 representative railway stocks	41.80	41.82	37.45
Average price of 20 representative railway bonds	89.21	89,96	78.86

Dividends Declared

Erie & Kalamazoo.—\$1.50, semi-annually, payable August 1 to holders of record July 21.
Louisville & Nashville.—\$3.00, irregular, payable August 30 to holders of record July 27.
Michigan Central.—\$25.00, quarterly, payable August 31 to holders of record July 21.
Rutland & Whitehall.—\$1.05, payable August 15 to holders of record August 1.
Wheeling & Lake Erie.—5% preferred, \$1.00; 5½% preferred, \$1.37½; both quarterly, both payable August 1 to holders of record July 25.

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CHICAGO, BURLINGTON & QUINCY .- This company has applied to the Interstate Commerce Commission for authority to abandon a branch from Helvey, Neb., to K. C. & O. Junction, 4.27 miles, and to abandon operation under trackage rights over the Union Pacific from K. C. & O. Junction to Endicott, 11.99 miles.

GULF, MOBILE & OHIO.—Division 4 of the Interstate Commerce Commission has authorized this company to abandon a branch from Muldon, Miss., to Aberdeen, 8.77 miles, reserving jurisdiction for two years for the protection of employees who may be adversely affected.

ALTON. - Division 4 of the Interstate Commerce Commission has denied this road's application for authority to abandon a branch from Carrollton, Ill., to East Hardin, 19.4 miles, without prejudice to a renewal of the application after the end of the war. Referring to the opposition of various shippers and the War Food Administration, the division held that "the industries served by the branch, especially the apple-growing interests in the vicinity of East Hardin, have shown considerable need for rail transportation facilities. It is true that much of the agricultural produce in the tributary territory has been handled to the markets by truck in preference to the railroad but in the main the shippers have relied upon the branch to meet their transportation requirements." As revenues had shown some recent increase, except when operation was prevented for a considerable time in 1943 by flood conditions, the division said, the record did not warrant abandonment of the line in face of increasingly critical conditions in truck operation.

Railway Officers

EXECUTIVE

V. A. Hewitt, office manager of the Chicago, Indianapolis & Louisville, with headquarters at Chicago, has been promoted to assistant to the chief executive officer, with the same headquarters, a newly-created position.

Frederick E. Baukhages, III, personnel assistant to the vice-president in charge of operations of the Baltimore & Ohio, has been appointed executive assistant to the vice-president in charge of finance.

William G. Curren, director of the Eastern region of the Office of Defense Transportation, at New York City, has been elected vice-president in charge of operation and maintenance of the Reading Company, effective August 1. Before entering government service, Mr. Curren had been general manager of the Baltimore & Ohio New York Terminal Lines for 18 years.

He was born at Webbs Mills, N. Y., April 12, 1881, and was educated at teacher's training school and business college. He entered railroad service, in 1901, as agent on the Northern Central (now the Pennsylvania). From 1902 to 1908 he served as clerk, secretary, general car distributor and inspector of transportation on the Erie. In the four years following he worked as chief clerk and next as super-

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William G. Curren

intendent car service on the Kansas City Southern. Mr. Curren went with the Baltimore & Ohio, in 1912, and for the next 14 years served as assistant superintendent, supervisor of transportation, assistant to general superintendent of transportation and general superintendent of transportation. In 1926 he was named general manager, B. & O. New York Terminal Lines, from which position he received a furlough on March 1, 1942, to go with the O. D. T.

During World War I, he served as special agent in charge of transportation, New York, and as transportation assistant of the eastern region of the United States Railroad Administration. In 1919, he became general superintendent of transportation, Allegheny region, U. S. R. A., at Baltimore, Md.

TRAFFIC

J. V. Maloney, general freight agent of the Grand Trunk with headquarters at Buffalo, N. Y., has been promoted to freight traffic manager in charge of all freight traffic in the United States for the Grand Trunk and Canadian National.

G. A. Rodriguez, foreign freight traffic manager of the Missouri Pacific, with headquarters at St. Louis, Mo., has been promoted to assistant freight traffic manager, with the same headquarters.

Sidney L. Springer, who has been in charge of transportation and traffic for the Kentucky Ordnance Works at Kevil, Ky., has returned to the Illinois Central as general freight agent for the Memphis area to succeed Robert W. Quindley, who has been granted a leave of absence on account of ill health.

C. F. Westcott, commercial agent of the Kansas City Southern and the Louisiana & Arkansas, with headquarters at Denver, Colo., has been promoted to general agent, with the same headquarters. M. J. Caldwell, acting general agent at Tulsa, Okla., has been advanced to general agent, with the same headquarters, and L. L. Kratville, commercial agent, has been promoted to general agent, with headquarters as before at Omaha, Neb. Nels R. Howe and F. H. Walker, commercial agents respectively at Seattle, Wash., and Oklahoma City, Okla., have been advanced to general agents, with the same headquarters.

Leonard Hill, whose promotion to general freight agent of the Chicago, Rock Island & Pacific, with headquarters at St. Louis, Mo., was reported in the Railway Age of July 22, was born at Kansas City, Mo., on January 21, 1903, and entered rail-way service on September 30, 1917, as an office boy of the Missouri Pacific at Kansas City. In October of the same year he went with the Rock Island as an office boy at Kansas City, subsequently serving in various minor capacities, including tariff and rate clerk, general clerk and rate adjustment and rate quotation clerk, until June 16, 1929, when he was promoted to assistant chief clerk, with headquarters as before at Kansas City. On February 1, 1939, Mr. Hill



Leonard Hill

was promoted to chief clerk of the general freight office, with the same headquarters, and on July 1, 1940, he was advanced to assistant general freight agent, with headquarters at Chicago, the position he held at the time of his new appointment.

Joseph L. Sheppard, freight traffic manager in charge of rate matters of the Illinois Central, with headquarters at Chicago, has been promoted to general traffic manager, with the same headquarters, a newly-created position. Robert A. Trovillion, assistant freight traffic manager at Chicago, has been advanced to freight traffic manager in charge of rate matters, succeeding Mr. Sheppard, and Oscar L. Grisamore, general freight agent, with headquarters at Washington, D. C., has been promoted to freight traffic manager, replacing William Haywood, whose death on July 16 was reported in the Railway Age of July 22.

J. R. Bradley, Jr., whose appointment to the position of general passenger agent of the Seaboard Air Line was announced in the Railway Age of July 1, was born at River Junction (now Chattahoochee), Fla. He joined the Seaboard in 1929 as assistant city ticket agent at Jacksonville, Fla., progressing rapidly through positions of increasing importance until he was appointed assistant general passenger agent. It was in this capacity that Mr. Bradley served at the time of his recent promotion to general passenger agent, with headquarters at Jacksonville. His entire service has been in Florida with the exception of a period from 1934 to 1937, when he was located with the Seaboard at New York.

FINANCIAL, LEGAL AND ACCOUNTING

Noel R. Michell has been appointed secretary and industrial manager of the Akron, Canton & Youngstown, with headquarters in Akron, Ohio.

Benjamin G. Stackhouse, commerce attorney of the Chicago, Indianapolis & Louisville, with headquarters at Chicago, has been promoted to general attorney, with the same headquarters. Mr. Stackhouse was born at Westfield, Wis., on December 4, 1888, and graduated from Marshall Law School in 1916. He entered railway service in 1912 as a stenographer of the C. I. & L. and on March 1, 1913, he was promoted to chief clerk of the law department at Chicago. On April 13, 1936, Mr. Stackhouse was advanced to the position he held at the time of his new appointment.

OPERATING

Henry K. Buck, whose promotion to superintendent of the Memphis terminal of the Illinois Central, with headquarters at Memphis, Tenn., was reported in the Railway Age of June 10, was born at Acona, Miss., on November 25, 1895, and was graduated from the Mississippi A. & M. College in 1918. He entered railway service on December 12, 1916, as a yard clerk of the Illinois Central at Gwin, Miss., later serving in other minor capacities until 1918 when he entered the armed forces and



Henry K. Buck

served overseas. Upon his return on June 16, 1919, he returned to Gwin as chief yard clerk, later working as a switchman at that point. On October 1, 1924, Mr. Buck was promoted to night yardmaster, with the same headquarters, and on May 1, 1926, he was appointed yardmaster, with headquarters at Jackson, Miss. On February 15, 1940, he

was advanced to trainmaster of the Cairo district, with headquarters at Jackson, Tenn., and on August 1, 1943, he was further promoted to assistant superintendent of the Memphis terminal, the position he held at the time of his new appointment.

P. H. Fox, whose appointment as general superintendent of transportation, Atlantic region, of the Canadian National, was announced in the Railway Age of July 15, was born at Cyprus Hills, Alta. He has been connected with the operating department of the Canadian National and its predecessor companies since January, 1907. Mr. Fox's first position was that of agentoperator at Rosedale, Ont., after which he served successively as dispatcher at Toronto, Ont., and Rosedale, chief dispatcher at Trenton, Ont., Rosedale, and Capreol, Ont., and assistant superintendent at Trenton and Ottawa, Ont. In January, 1938, he was appointed superintendent of the Allandale division, and on December 1, 1942, was transferred to the Ottawa division. Mr. Fox continued in that post until his present



P. H. Fox

appointment as general superintendent of transportation, Atlantic region, at Moncton, N. B.

MECHANICAL

V. E. Morton has been appointed division master mechanic of the Southern Ontario district, Canadian National, succeeding W. Sharp, who has retired from that position.

Samuel D. Dekle, assistant general superintendent of motive power of the Seaboard Air Line, with headquarters at Norfolk, Va., whose appointment to that position was announced in the Railway Age of July 1, was born at Waycross, Ga., on February 22, 1892. On June 15, 1907, he entered railroad service with the Atlantic Coast Line as machinist apprentice. Thereafter he served successively until 1920 as machinist, machine shop foreman, roundhouse foreman, and general foreman. In 1920 Mr. Dekle became supervisor, C. & A. and Copper Queen copper mines, and in 1922 he went with the Seaboard Air Line as round house foreman at Waldo, Fla. He also served in that post at Wildwood, Fla.,

becoming general foreman at the same location in 1925. In 1929 Mr. Dekle was named general foreman and acting master mechanic at Atlanta, Ga. He was appointed shop superintendent in 1937, and assistant to general superintendent of motive power



Samuel D. Dekle

in 1942. The latter position he held until his present advancement to assistant superintendent of motive power at Norfolk.

ENGINEERING & SIGNALING

G. K. Davis, special engineer on the Chesapeake & Ohio, has been promoted to the newly created position of assistant to the chief engineer, with headquarters as before, at Richmond, Va.

John Walter Smith, whose appointment as assistant chief engineer of the Seaboard Air Line was announced in the Railway Age of June 17, was born on July 20, 1900, at Baltimore, Md. In 1921 he was graduated from the University of Maryland with a B.S. degree in Civil Engineering, and three years later he entered railway



John Walter Smith

service with the Virginian as engineer computer at Norfolk, Va. Later in the same year he joined the Seaboard Air Line as engineer inspector at Columbia, S. C., returning in 1925 to the Virginian, in that position. He then went again with the Seaboard Air Line as engineer inspector, be-

coming successively assistant to division engineer and assistant division engineer at Jacksonville, Fla., chief clerk to engineer maintenance of way, at Savannah, Ga., and Norfolk, and assistant roadmaster at Richmond, Va. Mr. Smith was named division engineer at Howells, Pa., in June, 1932, being transferred to Savannah the following year. In October, 1936, he became supervisor of the betterment and construction bureau at Norfolk, and in September, 1937, was appointed trainmaster. He was advanced to assistant superintendent in March, 1942, and to superintendent at Howells in September, 1942. He continued in that capacity until his present appointment as assistant chief engineer, with headquarters at Norfolk. During World War I Mr. Smith served as a second lieutenant, U. S. Army.

OBITUARY

T. F. Conway, industrial agent of the Atchison, Topeka & Santa Fe, with head-quarters at Los Angeles, Cal., died at his home in that city recently.

Dennistoun Wood, engineer of tests of the Southern Pacific, with headquarters at San Francisco, Cal., died at his home in Palo Alto, Cal., on July 12, following a heart attack.

Estell T. Nelson, treasurer of the Missouri-Kansas-Texas, with headquarters at Dallas, Tex., died at his home in that city on July 12. Mr. Nelson was born at Boonville, Mo., on June 8, 1871, and entered railway service in April, 1892, as a clerk of the accounting department of the M.K.T. at Parsons, Kan. He later served in that capacity at St. Louis, Mo., and in August, 1895, he was promoted to cashier, with headquarters at Dallas. In May, 1897, Mr. Nelson was transferred to St. Louis, and in September, 1903, he was appointed chief clerk of the treasury department at St. Louis, being advanced to paymaster in August, 1911. In June, 1915, he was promoted to treasurer-paymaster, with head-quarters at Parsons, and in March, 1919, he was advanced to the position he held at the time of his death.

Lyman Delano, chairman of the board of the Atlantic Coast Line and of the Louisville & Nashville, died July 23, in New York, following a three-day illness. He was 61 years of age.

Born in Newburgh, N. Y., January 16, 1883, he was graduated from Harvard, in 1906. In the four years following his graduation he worked with Stone & Webster, engineers, in Boston. In 1910, he went with the Atlantic Coast Line, where for a number of years he served as executive vice-president, until 1940. He became chairman of the board of the L. & N. in 1931. During World War I, he was federal manager for the U. S. Railroad Administration of the A. C. L. and other railways.

An officer and director in many A. C. L. subsidiaries, he was a director also of the Railway Express Agency, Inc., Pan American Airways, and the Safe Deposit & Trust Company of Baltimore.

Mr. Delano held memberships in the Society of American Military Engineers and Union Club.



July 29, 1944

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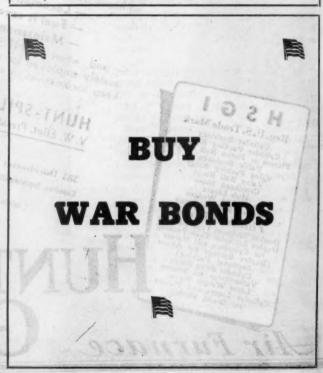
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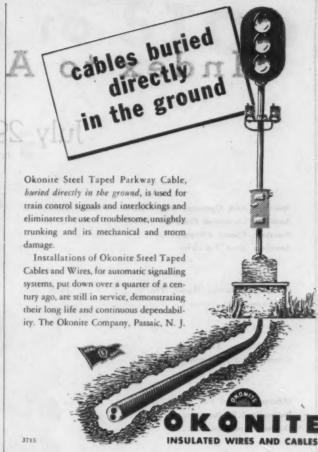
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HERE'S HOW TO STOP CAR BOUNCE



- Reduce Lading Damage ✓ Keep Cars off Repair Track
- ✓ Lower Track Maintenance

Performance of all-coil spring groups can be greatly improved by replacing one A.A.R. spring with an SBS Snubber.

SBS Snubbers eliminate destructive car bounce . . . prevent damage from solid blows.

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IN Canada...

The Canadian Pacific recently installed G-R-S Automatic Block Signals (A.P.B.)* on 118.3 miles of their transcontinental main line between White River and Schreiber, Ontario.

This busy single track line handles an average of 24 heavy tonnage freight trains and 6 transcontinental passenger trains (often in sections) daily.

This A.P.B. installation is unique in that provision is made for trains to enter and leave passing tracks on signal indications (see illustration). With this arrangement of signals at the ends of

passing tracks, when a meet is being made, the crew of the first train to arrive can position the switch for the second train to enter the passing track. Throwing the switch clears the lower unit of the entering signal to permit the second train to enter the siding without stopping. In the same manner, signal indication is provided for trains leaving sidings.

By this arrangement, future conversion to operation by Centralized Traffic Control may be made at a minimum cost of time, labor and material.

Operation since this installation shows:

- Increased Capacity
 (Trains may follow more closely and require less time for meets)
- Increased Operating Efficiency (Enroute time reduced – costs lowered)
- Increased Safety of Operation
 (Provided continuously and automatically by the signal system. Signal controls also arranged to facilitate warning of rock slides)

*Absolute Permissive Block System.

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